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# THE IRON AGE

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## PIG IRON STILL ADVANCING

**Steady Buying for 1920—Pressure from Consumers of Steel to Get on the Books—**

**Large Rail Inquiry Ahead**

Iron and steel markets are still dominated by the expectation of many buyers that for some months the difficulty of getting full supplies will be greater rather than less. Pig iron, which differs from steel products in that producers are making no effort to hold prices down, has made further advances of \$2 for steel making grades and \$1 to \$2 for foundry grades. Large sales have been made, chiefly for first and second quarters of 1920, and much more iron could have been sold. Several producers withdrew from the market with inquiries before them representing tens of thousands of tons.

Ten to twelve blast furnaces have resumed, including four at Johnstown, Pa., and three at Youngstown, Ohio, and there have been corresponding resummptions by connected steel works. Thus, supply is increasing, but there is even greater pressure by consumers of steel to get mills to enter their orders, for the first half of next year. In some cases this is done, leaving prices to be fixed later; but most producers are not willing to make contracts until present uncertainties as to fuel supply and costs are cleared up.

Some symptoms of a runaway market in pig iron have appeared, but as the main pressure is for early delivery and the supply of such iron is not large, the scramble has been limited. In next year's iron there is not yet the general buying nor the general willingness to sell that combine to produce a broad movement.

In basic iron a sale of 15,000 tons to a plate manufacturer is reported at Philadelphia at \$31.25, delivered, and sales of 10,000 tons in the Pittsburgh district were at \$30 at furnace. No. 2 foundry has sold in the Central West in considerable lots at \$32 at furnace for the first half. One Alabama seller opened its books for 1920, but after selling 23,000 tons at \$31 at furnace, an advance of \$2, withdrew from the market. Heavy inquiries have come up in Central territory, particularly from the Detroit district.

The sales of Canadian pig iron to melters in the United States have been considerable. Shipments from the Soo furnaces in Ontario, together with recent sales, make a total of 45,000 tons to the Chicago district besides 15,000 tons for the Pacific coast. The Port Colborne, Ont., furnace has also made sizeable shipments to this side.

Estimates that the railroads will buy 1,000,000 tons of rails when they are turned back are considered conservative in view of tentative inquiries by the Pennsylvania and New York Central Lines. In the Chicago district pending inquiries amount to 250,000 tons. The Algoma mill has an order for 80,000 tons for the Canadian Pacific. In view of the car and motive power scarcity that is already menacing winter distribution of fuel and steel, figures for next year's needs exceeding 200,000 for cars and 5,000 for locomotives are not considered excessive.

Recent export sales have included 20,000 boxes of tin

plate at \$8 and several thousand tons of rails, on which the price was higher than the domestic level of \$47 for open-hearth. There are European inquiries for upward of 30,000 tons of semi-finished steel, but early deliveries are wanted and few mills can make a better promise than March.

The shortage of sheets is more marked. Automobile manufacturers in particular have been bidding up prices, as high as \$30 premium having been offered. Sales are reported at advances of \$8 per ton above schedule for black and \$11 for galvanized. One Detroit builder has been compelled for lack of sheets to cut output from 3,000 to 1,600 cars per day.

October business in fabricated steel amounted to about 139,500 tons, comparing with a monthly average in the third quarter of 138,600 tons and in the first half of 1919 of 54,000 tons. Steel building projects remain notably active and manufacturing extensions have been a factor in Chicago and the Central West. Fabricating plants now have more business on their books than in months.

Bar iron makers have advanced prices \$2 per ton in the Pittsburgh district. Some Eastern mills have made an advance of \$5, the second of that amount in 30 days, with correspondingly higher prices for nuts and bolts, but one Western nut and bolt interest has not yet followed the advance of a few weeks ago.

Eastern shipyards are becoming more active, inquiries now up at Philadelphia calling for 6,000 tons of plates. One Eastern seller of structural steel has advanced its price to a minimum of 2.65c, mill. Some mills which oppose an advance believe that higher prices would restrict spring building.

The demand for line pipe is unusually heavy and mills have turned away no small tonnage lately. A tentative inquiry represents 1,400 miles of 8-in. pipe; another calls for 800 miles and a third for 300 to 400 miles. The mills are filled up on lap weld pipe for months ahead.

A contract for 10,000 tons per month of standard furnace coke for the first half of 1920 has been closed at \$5.75 per ton at oven.

The Government is rapidly cleaning up its surplus scrap. The Ordnance Department has just sold its stock of shell steel billets, amounting to 106,000 tons, to a Cleveland dealer at \$33, Pittsburgh. Heavy melting steel is higher, sales at Pittsburgh having been made at \$23. Taking their cue from the pig iron market, scrap dealers and brokers are not selling freely at present prices.

## Pittsburgh

PITTSBURGH, Nov. 18.

The local pig iron market has been very active the past week, sales of iron for delivery in the first quarter of next year, having been heavy, and at prices \$2 per ton or more higher than prevailed a week ago. Consumers seem very anxious to cover their needs as far as possible for first quarter, and have been buying very freely. Supplies of Bessemer, basic, No. 2 foundry and malleable iron for this year delivery have been thoroughly cleaned up, and some sellers of these grades have all the business on their books for first quarter they care to take and are not actively quoting. One leading Shenango Valley maker of Bessemer and basic iron reports being

sold up through first quarter on all the pig iron it can possibly make in that period. While a week ago Bessemer and basic iron were being sold largely to foundries, sales in the last few days have been to regular consumers of these grades. We note sales of 3,000 tons of Bessemer iron at \$31.50, upwards of 10,000 tons of basic at \$30; about 7,000 tons of gray forge at \$31; 8,000 to 10,000 tons of No. 2 foundry at \$32; about 5,000 tons of No. 1 foundry at \$33.25, and about 2,000 tons of No. 3 at \$31.50. All these prices are f.o.b. at Valley furnace. With the heavy demand for pig iron, and the limited supply, the prices seem certain to go higher, and predictions are being made that basic may reach \$35 before the first of the new year. We have advanced prices on all grades of pig iron \$2 to \$2.50 per ton.

**FERROALLOYS**—The demand for ferroalloys is fairly active, and since last week prices on low grades of Bessemer ferrosilicon have been advanced \$5 per ton, and on silvery iron \$2 per ton. Sales of 5,000 tons or more of both Bessemer ferrosilicon and silvery iron have been made at the advanced prices for delivery in the first quarter. We also note sales of 600 to 800 tons of domestic ferromanganese at \$110 delivered to consumer's plant; also sales of about 300 tons of 78 to 82 per cent English ferromanganese at about \$102 c. i. f. seaboard, equal to about \$106.60 delivered.

**BILLETS AND SHEET BARS**—There is still a great shortage in supply of billets and sheet bars and higher prices quoted last week are holding firmly.

**FINISHED MATERIAL**—Inquiry for structural steel is very active, and fabricators have more business on their books than for some months. The American Bridge Co. has taken 700 tons for a theatre in Philadelphia and the McClintic-Marshall Co. about 3,000 tons for buildings for the Western Electric Co. at Chicago. The price of plain material remains at 2.45c at mill. Demand for plates is getting heavier, and some mills, with their reduced rate of operations, are pretty well filled up over this year. The Standard Steel Car Co. has taken 1,000 tank cars for the Union Tank Line, the American Car & Foundry Co. the same number, and the Pressed Steel Car Co. and the Cambria Steel Co. 750 each for the same concern. Export inquiry for plates is active, and a Youngstown mill is said to have taken 10,000 tons shipment to Japan at about 2.85c, mill. Neither the leading interest nor the larger independent mills have advanced prices on sheets, but this may be done in the near future. One leading consumer has already placed 100,000 boxes of tin plate with a local mill, the price to be that fixed by the makers for next year. Wire rods are said to have sold up to \$55 a ton for soft Bessemer and open-hearth, and as high as \$85 has been paid for high carbon rods. Wire nails are very strong at \$3.50 to \$4 base per keg, and two export sales of large quantities have been made at \$4.50 base, per keg at mill. Prices on common iron bars have been advanced \$2 per ton, or a total of \$7 in the past two or three weeks. The two leading mills are sold up on steel bars for months, and some of the smaller mills are holding steel bars at 3c at mill, and have made sales at that price. The demand for line pipe continues extremely heavy, and mills are turning down desirable orders every day. One tentative inquiry is in the market for 1,400 miles of 8-in. pipe, another for 800 miles, and still another for from 300 to 400 miles. Local mills say they will not quote on these inquiries, as they are filled up for months.

**COKE**—A local blast furnace interest, whose coke supply has been restricted by the coal strike, has been buying freely of blast furnace coke for prompt shipment, and is taking practically all the standard spot furnace that is offered. This concern is credited with having bought 25,000 tons of spot furnace coke in the past week or 10 days. Sales of prompt delivery furnace coke are being made at \$6, and 72-hr. foundry coke at \$7 per net ton at oven. A contract is reported for 10,000 tons per month of standard furnace coke for first half of next year at the flat price of \$5.75 per net ton at oven.

**OLD MATERIAL**—The scrap market is much more active, and while little material has been sold, prices are up on nearly all grades about \$2 per ton. This is due largely to the active market and the higher prices of pig iron, scrap dealers claiming that heavy steel scrap

for melting purposes is worth as much intrinsically as basic iron. One sale of 5,000 tons of heavy steel scrap is reported at \$23 per gross ton delivered to consumer's mill. Another sale of 3,000 tons is reported at \$22.50, delivered consumer's mill. The market on heavy steel selected scrap seems to be fully \$23 delivered. It is claimed that as high as \$25 has been offered for heavy steel scrap for delivery in first quarter, and the offer was turned down. We note a sale of 2,000 tons of low phosphorus melting stock at \$25.50, delivered. Dealers are looking for higher prices on scrap in the very near future, the demand being active, and the available supply is small.

## Chicago

CHICAGO, Nov. 18.

Buyers are bringing tremendous pressure to bear on the mills to take orders to protect their first half requirements. Although these prospective purchasers are willing to leave the matter of price open, most mills are disinclined to take this business because they realize that an unexpected turn in the market would bring wholesale cancellations. The scarcity of sheets for prompt shipment is marked. Automobile manufacturers particularly are scouring the country for this product and are offering attractive premiums, in some cases as high as \$30 a ton. Despite these heroic measures, a leading Detroit automobile builder has been forced to reduce his daily out-put from 3,000 to 1,600 cars.

The demand for steel bars also continues very strong, but the leading interest continues to quote 2.35c, Pittsburgh, with the stipulation that deliveries will be dependent upon operating conditions. One important Western bolt and nut manufacturer has not yet raised his prices in conformity with the recent advances by other makers. Pig iron and old material continue to move upward. The leading interest will furnish 16,000 tons of plates, shapes and axles for 1,000 tank cars to be constructed by the Standard Steel Car Co. for the Union Tank Lines.

As a result of the release of some of the coal in transit the situation with the iron and steel mills in the Chicago district is somewhat easier than it was a week ago. The Highland Iron & Steel Co. is about to resume operation in its West Pullman bar iron mill which has been idle for a week. The Republic Iron & Steel Co. is again operating its busheling department at its East Chicago mill and believes it will be able to keep this plant running until the end of the month. Its Moline, Ill., hard steel bar mill, however, will be forced to shut down at the close of this week, unless additional fuel can be secured. The Interstate Iron & Steel Co. is also running on a short supply of coal. To conserve its stock it is now operating the boilers at its South Chicago works on oil. Its open-hearth furnaces have been oil-fired since their installation.

The larger interests, Illinois Steel Co., Inland Steel Co., Wisconsin Steel Co., and Steel & Tube Co. of America, have sufficient coal laid in to insure operation until the end of the year or longer. They may run short of steam and gas coal, which comes from the Indiana and Illinois fields, but in that event can draw on their ample stocks of coking coal. These plants are now operating on practically the same basis as before the steel strike.

Despite its favorable position with regard to fuel stocks, the leading interest is conserving its supply through an increased use of oil. During the steel strike oil was used more extensively for open-hearth operation on account of a shortage of labor. Now this policy is being continued because of the uncertain coal situation.

**FINISHED MATERIAL**—An export inquiry for 200 high side gondolas will call for about 3,300 tons of steel. A Southern inquiry for 10 oil tanks involves 1,500 tons of plates. The Pullman Co. will build 69 passenger cars for the Texas & Pacific, involving 1,000 tons of steel. Additional Western railroads are in the market for rails, making the total tonnage asked for in this district about 250,000 tons. The Chicago Union Station received bids Nov. 15 on 17,000 tons of structural material. The Standard Oil Co. is asking for 3,000 tons to be used in the erection of 500 storage tanks. The Aetna Iron & Steel Co. has awarded 1,300 tons to the Northwestern Bridge





when more plate mills become active, as there is a growing demand for plates. Some shipyards are becoming more active. Inquiries in the market from Eastern yards total about 6000 tons of plates. One plate company whose price is 2.75c., Pittsburgh, for Eastern shipment and 2.75c., mill, for Western shipment is having no difficulty in booking orders at this price, though deliveries in some instances cannot be promised short of three or four months. Output of Eastern plate mills is increasing. One plant, with a normal output of 1000 tons daily, is getting a daily production of 900 tons and with a better supply of labor could increase this. An Eastern maker of shapes has advanced prices so that all sales net not less than 2.65c., mill. Other makers of shapes are opposed to any price advance at this time, believing that to do so will restrict activities for spring building. A new office building in Philadelphia for the Atlantic Refining Co., requiring about 2000 tons of steel, is about to be let.

**Pig Iron**—The Eastern pig iron market is in a peculiar condition. Veterans in the business say they do not recall any conditions just like the present. There is an insistent demand for iron not only for prompt delivery but for first half, and much more business is being turned down than is accepted. A large number of the active furnaces are sold up for the next two to four months, and do not want to make further commitments. No. 2 X iron is generally quoted at \$35 to \$36, furnace. For next year a Buffalo furnace has quoted \$38, furnace, on No. 2 X. The leading Virginia interest has quoted \$35, furnace, for No. 2 plain and \$1.25 higher for No. 2 X. Higher silicon iron is bringing fancy prices. The trade expects \$40 iron by the first of the year. We note a sale of 100 tons of Virginia foundry iron, analyzing 2.75 to 3.25 silicon, at a delivered price of \$39.70. An Eastern maker of Bessemer iron this week quoted \$33.50, furnace, on an inquiry for 5000 tons. Malleable is hard to obtain, and such sales as have been made in the East have been by Middle Western makers, with prices approximating \$36 to \$37, delivered. Another sale of basic was made a few days ago to an Eastern plate manufacturer, the amount being 15,000 tons and the price \$31.25 delivered. Recent sales of basic at \$33, furnace, for delivery in the first half fairly represent the market for that delivery, though slightly better can be done for earlier delivery.

**Finished Material**—Some Eastern makers of bar iron have again advanced prices \$5 a ton, this being the second advance of that amount within 30 days. The new prices are as follows: For  $\frac{1}{4}$  and  $\frac{5}{16}$  in. rounds and squares and flats under  $\frac{1}{4}$  in. thick, 4c., base, Pittsburgh; for  $\frac{3}{4}$  and  $\frac{7}{16}$  in. rounds and squares, 3.70c., base, Pittsburgh; for flats wider than 6 in., 3.30c., base, Pittsburgh; other sizes of rounds, squares and flats, 3c., base, Pittsburgh. Prices on bolts have also been advanced by some Eastern makers, their new discounts being as follows:

Machine bolts, h. p. sq. nuts,  $\frac{3}{4}$  x 4 in. and smaller, rolled thread, 50 and  $7\frac{1}{2}$  per cent off list; cut thread, 40 and 10 and 5 per cent off; larger and longer, 40 per cent off; carriage bolts, h. p. sq. nuts,  $\frac{3}{4}$  x 6 in. and smaller, rolled thread, 45 and 5 per cent off; cut thread, 40 and 5 per cent off; larger and longer, 30 and 10 per cent off; lag screws, 50 and 10 per cent off; blank bolts, 40 per cent off; bolt ends, h. p. nuts, 40 per cent off; with c. p. nuts, 30 and  $2\frac{1}{2}$  per cent off; rough stud bolts, 35 and  $2\frac{1}{2}$  per cent off; forged tap bolts, 25 per cent off; U. S. standard h. p. nuts,  $\frac{3}{4}$  to 2 in., inclusive, sq. and hex., blank, 2.50c. off list; tapped, 2.25c. off; cold punched the same. Button-head oval neck track bolts, U. S. standard, cut threads and h. p. nuts,  $\frac{1}{2}$  in. and larger, less than carloads, 5.50c., base, Pittsburgh; carload lots, 5c., plus Government extras. Less than 200 kegs take an extra 1c. per 100 lb. Contracts are being made by some companies at these prices for delivery this year, but they are not quoting for next year.

**Old Material**—Prices continue to advance. There is a scarcity of nearly all grades of scrap, due partly, no doubt, to the withholding of supplies for higher prices. Steel rails for rerolling are up 50c. to \$1.50 a ton. No. 1 cast scrap is in strong demand, and prices are \$1.50 to \$2.50 higher. Borings and turnings and stove plate are scarce and higher.

The Abell-Howe Co., Chicago, has opened a branch office in the Greenwood Building, Cincinnati, that is in charge of C. Walter Parker.

## Cincinnati

CINCINNATI, Nov. 18.

**PIG IRON**—Some Southern foundry iron, silicon 1.75 to 2.25, was sold last week at \$31 Birmingham basis, for nearby shipment. Only one interest in the South is able to take business for this year's shipment except on off grades of high sulphur iron. All Southern makers have withdrawn first quarter offerings and are awaiting something more definite as to future costs. In southern Ohio one producer is still willing to take business from old customers at \$32.75, Ironton. Other interests there refuse to quote. A medium sized tonnage of southern Ohio malleable was sold last week at \$35.25 furnace for November-December shipment. None is being offered for first quarter delivery.

**COKE**—Coke is easier in the Connellsville field and shipments are moving more promptly. Furnace grades range from \$5.75 to \$6 and foundry from \$6.50 to \$7 at oven on contracts and from \$7 to \$7.50 for prompt shipment. Wise County furnace coke is around \$7.25 to \$7.50 and foundry from \$8.50 to \$9. A little better supply is reported. New River is still scarce and is firm at \$10.50 to \$11 at ovens.

**OLD MATERIAL**—The scrap market is stationary and all quotations are firm. The car supply is improving rapidly and recently not much complaint was in evidence on this score. Indefinite knowledge as to the coal strike is holding back business in all lines to some extent, but no nearby manufacturing plants have been embarrassed for want of fuel.

## Birmingham

BIRMINGHAM, Ala., Nov. 17.

**Pig Iron**—At the turn of the middle of the month, Birmingham pig iron had advanced to \$31 with a strong leaning to \$32. The day the coal strike recall was issued an out-of-the-market interest entered on a \$31 basis for 1920 business. In less than 24 hours it had booked 20,000 tons, principally for Ohio and other Middle Western delivery, and then withdrew. The week before this interest was still quoting \$29. The two largest foundry producers and one other had been selling at \$30 during the preceding week. At the close of the week they were out of the market temporarily, but it was understood that they would ask \$32 on re-entrance. The leading interest has no metal to offer and probably will have none, needing all its own. The Alabama Co. is getting \$32 for its Clifton brand. Business booked for 1920 fairly well covers the first quarter capacity, one large interest admitting bookings to capacity for 90 days. The bulk of the 1920 bookings was at \$30. A still higher market is regarded as practically certain. Steel mills are turning down orders and operating at near capacity. The leading interest pulled through the coal strike without banking any of its nine furnaces. The Woodward Iron Co. will probably resume at one of the banked Vanderbilt stacks in the near future. The Sloss-Sheffield Steel & Iron Co.'s stack at Sheffield is being relined.

**Cast Iron Pipe**—Oil pipe is active, the Standard Oil and Gulf Refining companies being large takers for the Houston field. Asheville, N. C., is taking 9 miles of 16-in. water pipe and El Paso a quantity of 20-in. There is now a 70 per cent production of coal in Alabama compared with 40 to 50 per cent prior to the strike recall. Many miners are still out. Strikers claim operators are blacklisting strike leaders. Operators advance the counter claim that the men will not work. Production tends to increase.

**Old Material**—The old material market has been given an impetus owing to the advance in iron and the yards are holding stiffly for the new schedule. No. 1 cast and stove plate are moving in quantities.

## Cleveland

CLEVELAND, Nov. 18.

**PIG IRON**—Features of the pig iron market are a very heavy volume of inquiry, particularly from the Detroit territory, for foundry and malleable grades for next year and a sharp price advance on basic iron. Sales of a round tonnage of basic are reported at \$30. A Cleveland producer, finding it necessary to purchase some basic, was unable to secure a lower price, and purchased 2,500 tons, not being able to get a larger quantity. Foundry



iron is firmly established at \$32. Malleable iron has sold at \$32.50 for a 3,000 ton lot for the first half. Another sale of 2,000 tons was made at \$31.50 for early shipment from Pennsylvania to Western Ohio. A leading selling agency opened its books at \$32 for foundry iron for the first half, and, after selling several thousand tons, withdrew from the market without quoting on 50,000 tons. Other producers have either withdrawn or are selling only in limited quantities. Pickands, Mather & Co. have blown in their A furnace in Toledo, which has been rebuilt and were unexpectedly compelled to blow out their B furnace for relining. M. A. Hanna & Co. have blown in their second Detroit stack and the Upson Nut Co. has blown out its stack for relining.

**FINISHED MATERIAL**—Operating conditions continue to improve in the Cleveland steel plants. The McKinney Steel Co. has started three additional open-hearth furnaces, now operating 11 out of 14. The Cleveland Steel Co. resumed operations this week and the Upson Nut Co. is operating at 100 per cent. The demand for finished steel is heavy and consumers are finding it hard to place orders for early shipment. The volume of inquiry for plates has increased, among inquiries being one for 10,000 tons for field and car tanks. Plates for early shipment are selling at 2.75c, Eastern mill. New structural work includes 650 tons for the plant of the Superior Sheet Steel Co., Canton, taken by the Canton Bridge Co.; 750 tons for the Loew Theatre Building, Cleveland. Sheets are very scarce and sales have been made at a premium of \$8 for black and \$11 for galvanized. Bolt and nut sales are being made at 10 to 15 per cent above regular prices. Cold weather has caused a rapid falling off in ore shipments, many boats having been tied up.

**OLD MATERIAL**—Scrap prices continue to advance and the market shows an increased activity, although some of the buying appears to be speculative. Sales of heavy melting steel are reported at \$22 for Lorraine delivery.

## New York

NEW YORK, Nov. 18.

**PIG IRON**—The pig iron market has again advanced about \$1 within a week with the probability of further advances as more furnaces go out of blast because of the coal strike. Only a sudden return to a normal coal situation can stem the rising tide of prices. For 2 X iron \$35 furnace is the minimum, extending in some cases to \$37. Virginia iron, 3.25 to 3.75 silicon was sold in New England at \$39, furnace, plus a freight rate of \$4.70. A Michigan charcoal iron furnace this week advanced from \$37 to \$40. High silicon irons remain especially scarce. Off-irons still sell rapidly, one seller having just disposed of about 1,000 tons of high sulphur iron. Demand for basic iron is increasing, one agent having received several inquiries for around 3,000 ton lots. One seller has received inquiries for 1920 within the last two weeks totaling 40,000 tons, but has been unable to quote on any.

**CAST IRON PIPE**—Because of the mounting cost of pig iron, manufacturers of cast pipe are predicting early advances in prices. The Department of Water Supply, Gas and Electricity, City of New York, will award a contract involving 2,000 tons of 36-in. cast iron pipe and fittings Saturday, Nov. 22. Prices are stiff, skilled labor is scarce and orders are heavy. We quote 6-in. and heavier at \$58.30, New York; 4-in. \$61.30, with \$2 additional for Class A and gas pipe.

**FINISHED IRON AND STEEL**—Demand has continued in such volume that mills which have been entering carefully selected business are now refusing all offers. Others have tightened up with the result that plates, structural material and alloy steel bars are about all the forms of finished steel that can be obtained in two months or less. On steel bars one large producer is booked for five months under normal manufacturing rates, which under the conditions of slow return to the normal are taken as equivalent to seven months. Another mill nominally at 2.50c, Pittsburgh, for bars, has nothing to sell at any price and has practically ceased to enter bars of forging quality, for which 2.85c has been the basis of settlement. A third has booked probably 5,000 tons at 2.75c to 2.80c, Pittsburgh. Export de-

mand continues heavy in semi-finished forms, between 30,000 and 40,000 tons being a conservative estimate of the total which could be closed immediately if possible to find mill space open. It is doubtful if a large tonnage could be bought for better than March shipment. Some rails have been placed for export at several dollars above the prevailing domestic levels of \$45 and \$47 and tin plate has squarely reached \$8 per base box. 20,000 boxes having been sold at this price. One of the features of the week was the sale of between 2,000 and 3,000 tons for forging billets at \$80 per ton. Some small lots of plates for domestic consumption have brought 2.70c Pittsburgh base. Heavier inquiries are noted for fabricated material. Included in the list are the following:

Bank at Wilmington, Del., 200 tons.  
Proof shop, Bureau of Yards and Docks, Washington, 300 tons.  
International Tailoring Co., Fourth Avenue, 1400 tons.  
Textile mill, Three Rivers, Mass., 300 tons.  
Duesenberg Motor Corporation, Elizabeth, N. J., 4000 tons.  
Loft, Livingston Street, Brooklyn, 1000 tons.  
Theater, Baltimore, 1000 tons.  
Fertilizer plant, Armour Co., Baltimore, 750 tons.

Awards include the following to the American Bridge Co.: General Electric Co., office buildings at Schenectady, N. Y., 500 tons; air coast defense station, Staten Island, 700 tons; Passaic Cotton Co., two mills, one at Passaic and one at Fall River, 650 tons; Marcy power station, State of New York, 325 tons; addition to Cheswick power plant, Springdale, Pa., 550 tons; Proctor & Gamble Co., Dallas, Tex., 450 tons. The Hay Foundry & Iron Co. has been awarded 1,800 tons for a telephone building on East Thirtieth Street and a Haas loft, Seventh Avenue and Thirty-sixth Street has been placed. The Lehigh Structural Steel Co. has taken 120 tons for the Atlantic Smelting & Refining Co., Newark, N. J. Prices are to be found elsewhere in this issue.

**OLD MATERIAL**—The steady march upward of scrap is inducing dealers to hold their supplies for expected higher prices. There is a decided scarcity of clean borings and borings and turnings. As an example of market conditions, one New York broker is offering from 25c to \$1.50 more on 10 grades than he offered a week ago. Heavy melting steel is more conservative in its price movements than many other grades.

## Boston

Boston, Nov. 17.

**PIG IRON**—Spot iron practically has disappeared from the market, most of the furnaces operating having sold all that they desire. Probably less than half a dozen cars have been sold during the past week. It is only fair to state, however, that all the 1919 New England requirements have been covered. First half 1920 iron is by no means plentiful, most of the furnaces being inclined to withhold offerings until the coal supply situation is clearer. With the exception of one local house, which has sold between 25,000 and 30,000 tons, the general pig iron market, as a result of the attitude taken by the furnaces, is much quieter than it was earlier in the month. Alabama irons for all shipments are out of the market owing largely to heavy sales by New York and Cincinnati agencies. Little Virginia iron is to be had, but some furnaces expect to open their 1920 books during the next few days. The last car of Virginia reported as sold was silicon 2.75 to 3.25, which brought \$38 furnace. The most active house started the week's business on a \$32 base for Eastern Pennsylvania silicon 1.75 to 2.25, but finished on a \$33.75 base, and in one or two instances, where small tonnages were involved, secured \$34 furnace. This firm sold 1,000 tons of silicon 2.75 to 3.25 to the General Fire Extinguishers Co., Providence, R. I.; 500 tons silicon 2.25 to 2.75 to Landers, Frary & Clark, New Britain, Conn.; 1,000 tons silicon 1.75 to 2.25 to a Bridgeport, Conn. foundry; 1,000 tons silicon to a Springfield, Vt. foundry; and 4,000 tons silicon 1.75 to 2.25 to a Westfield, Mass. foundry.

**COKE**—A small tonnage of Connellsville coke for prompt shipments is available, but the New England Coal & Coke, the Providence Gas Co., and the large majority of Connellsville shippers are cleaned up on such offerings so the market really is nominal. A sizable tonnage of first-half 1920 coke has been sold since last

reports on a \$11.90 delivered basis, but business is not nearly as brisk as it was a week or 10 days ago.

**OLD MATERIAL**—Eastern Pennsylvania interests have continued light buyers of steel scrap, although some sales on a delivered basis of about \$20.50 are reported. Chemical concerns have been active buyers of borings since last reports and apparently the blast furnaces, steel mills and a few of the rolling mills cannot secure enough turnings. New England foundries are buying all the cast scrap they can secure, the sales for the past week involving a considerable tonnage at a \$31 to \$32 delivered basis. Pipe consumption is virtually nil. The general old material market, however, has been active and firmer.

### Buffalo

BUFFALO, NOV. 17.

**Pig Iron**: Inquiry for small tonnages for prompt delivery is insistent, but the producers of the district have very little iron not already under contract with which to satisfy the demand. One of the largest producing interests still has its furnaces out of blast, as they have been since the beginning of the iron and steel workers' strike, and the others with one exception are entirely sold up for the current quarter, consequently consumers are obliged to go to outlying districts for immediate supplies. Even this source of supply is becoming more difficult to be made available, and it is believed prompt shipment iron will be practically unobtainable within a few weeks if the furnace capacity of the district cannot soon begin full production. Furnaces are becoming more reluctant to sell for next year and prices are ruling higher. Nothing less than \$34.00, furnace, for 2 plain, 1.75 to 2.25 silicon; \$35.25 for 2X, 2.25 to 2.75 and \$37.00 for No. 1 foundry, 2.75 to 3.25 is now being quoted for any delivery. One of the large producers which has heretofore refrained from quoting for 1920 commenced quoting this schedule today.

Malleable is now being held at \$35.25, and is exceedingly scarce, and basic at \$32.00.

**OLD MATERIAL**: The market is exceedingly strong and about \$1 per ton higher on every grade. Inquiries are out for the largest volume of steel scrap that has been before the market for a year, both from local and outside of the district consumers. Dealers are holding back, however, and are not anxious to sell anything they have in stock, believing higher prices are imminent and that such expectation will soon be realized; consequently consumers are finding it hard to buy at today's prices. Demand from the eastern Pennsylvania district is strong and \$21 is being paid for cast iron borings.

### St. Louis

ST. LOUIS, NOV. 17.

**PIG IRON**—An acceleration of the buying movement in pig iron was markedly notable during the past week, the aggregate sales being very heavy and estimated to run probably as high as 25,000 tons in the aggregate. The call was for foundry and malleable iron with the individual tonnages ranging from 2,000 tons down, but relatively few below 1,000 tons. The sales were of both Northern and Southern iron, while the local furnace also participated in the bookings, having opened its lists for next year in anticipation of blowing in the latter part of February. The sales by the local furnace were on a basis of about \$35 per ton, while the Southern sales were \$32 to \$33 Birmingham and the Northern about \$32.75 Iron-  
ton.

**COKE**—Considerable selling in coke was reported in tonnages ranging down from 750 tons on a basis of \$7 Connellsville. New River quotations, with no shipments definite, were \$12 to \$12.50 per ton for prompt and 50 cents lower for next year.

**FINISHED IRON AND STEEL**—In finished products the shipments continue to show improvement but the receipts are still far below needs and the full range of shapes is not available, resulting in still further substitution in sales out of warehouses.

**OLD MATERIAL**—In scrap the activity is speculatively heavy with dealers bidding high for material and some consumers aiding the tendency upward by efforts to get certain classes of material. The dealers are at present gambling that the market will go higher.

### METAL MARKETS

Nov.	THE WEEK'S PRICES Cents Per Pound For Early Delivery							
	New York		Tin		Lead		Spelter	
	Lake	Electro-lytic	New York	St. Louis	New York	St. Louis	New York	St. Louis
12	21.75	21.25	54.25	6.80	6.55	8.10	7.75	
13	21.50	21.00	54.50	6.80	6.55	8.25	7.90	
14	21.00	21.00	54.50	6.80	6.55	8.35	8.00	
15	20.75	20.25	.....	6.80	6.55	8.35	8.00	
17	20.50	20.00	53.87½	6.80	6.55	8.30	7.95	
18	20.50	20.00	53.87½	6.80	6.55	8.30	7.95	

### New York

NEW YORK, NOV. 18.

Evidently influenced by the fact that demand in recent weeks has not been equal to production, some of the larger producers of copper are understood to have been sounding consumers at considerably lower prices than have prevailed for some time. Electrolytic copper for delivery this year is therefore quotable as low as 20c., New York, with Lake at about 20.50c., New York. At these lower levels very little business is understood to have yet been consummated. Only light sales of tin either for prompt or future shipment have been made and the market has been featureless. Due to congestion at the docks and consequently less ample supplies of metal, spot Straits has sold at higher prices during the week and is quoted to-day at 53.87½c., New York. Ex-steamer at dock the quotation is 53.25c., with the last quotation for December-January shipment from the East at 53.50c. The lead market is stronger, due rather to a limited supply than to a large demand, and the New York quotation is 6.80c., with the St. Louis quotation also slightly higher at 6.55c., both for early delivery. A larger export demand caused the zinc market to rise to 8c., St. Louis, for prime Western delivery, at which level large producers and others are more inclined to do business. Since then the market has fallen slightly to 7.95c., St. Louis, or 8.30c., New York. The antimony market is stronger at 9.25c., New York, duty paid, for wholesale lots for early delivery. Virgin aluminum is obtainable at 32c. to 33c., New York.

The spiegeleisen market is active and strong. There are inquiries before the market for from 3000 to 5000 tons, some of it for export, and several thousand tons have been closed both for domestic and foreign consumption at about \$35, furnace. France is inquiring for 500 tons and an Antwerp buyer is interested in 1000 tons. A domestic consumer is negotiating for 1000 tons for delivery in the next four months and two other buyers are inquiring for 500 tons each. In the domestic ferromanganese market there are inquiries aggregating 1000 tons and sales of small lots have been made at \$110, delivered. British producers are still absent from the market, although one may be able to quote in a few days for delivery in the first quarter.

### CONDITIONS IN GREAT BRITAIN

Large Demand, but Works Are Far Behind—  
France Buys Blooms in Italy.

LONDON, ENGLAND, NOV. 18 (By Cable).—The ending of the molders' strike which began in the last week of September, remains in doubt. Steel companies report heavy unsatisfied export demands. Lorraine basic iron, of which large sales were made to this country, is now arriving in England.

Business on a large scale is offered in steel, but works are unable to quote and all deliveries remain greatly in arrears.

France is reported to have bought 80,000 tons of blooms from the Ilva works, Italy located at Bagnoli, near Naples.

The tin plate demand though unsatisfied is quieter, but quotations now are 45s to 46s per base box (about \$9.45 with exchange at \$4.14). Galvanized sheets are perhaps still stronger, No. 24 gage being £36 10s, or £1 higher than last week, and £1 10s above the quotation two weeks ago. Most works are sold until March or April. China and Japan are prominent in inquiries.

John Lysaght, Ltd., Bristol, maker of sheets, has acquired a controlling interest in Joseph Sankey & Sons, Ltd. The Low Moor Co. Ltd., Bradford, Yorkshire, rolling bars, sheets and shafting, and Robert Heath & Sons, Ltd., Stoke-on-Trent, Staffordshire, pig iron and rolled iron and steel, have just been amalgamated.



## Prices Finished Iron and Steel, f.o.b. Pittsburgh

Freight rates from Pittsburgh on finished iron and steel products, including wrought iron and steel pipe, with revisions effective Nov. 1, 1918, in carloads, to points named, per 100 lb., are as follows: New York, 27c.; Philadelphia, 24.5c.; Boston, 30c.; Buffalo, 17c.; Cleveland, 17c.; Cincinnati, 23c.; Indianapolis, 25c.; Chicago, 27c.; St. Louis, 34c.; Kansas City, 59c.; St. Paul, 49.5c.; Denver, 99c.; Omaha, 59c.; minimum carload, 36,000 lb. to four last named points; New Orleans, 38.5c.; Birmingham, 57.5c.; Pacific Coast, \$1.25; minimum carload, 80,000 lb. To the Pacific Coast the rate on steel bars and structural steel is \$1.315, minimum carload 40,000 lb.; and \$1.25, minimum carload 50,000 lb. On wrought iron and steel pipe the rate from Pittsburgh to Kansas City is 50c. per 100 lb., minimum carload 46,000 lb.; to Omaha, 50c.; minimum carload 46,000 lb.; to St. Paul and Minneapolis, 49.5c.; minimum carload 46,000 lb.; Denver, 99c., minimum carload 46,000. Jacksonville, Fla., all rail, car lots, 41.5c.; less, 59c.; rail and water, car lots, 34.5c.; less, 46.5c. A 3 per cent transportation tax applies. On iron and steel items not noted above, rates vary somewhat and are given in detail in the regular railroad tariffs.

### Structural Material

I-beams, 3 to 15 in.; channels, 3 to 15 in.; angles, 3 to 6 in., on one or both legs, ¼ in. thick and over, and Zees, structural sizes, 2.45c.

### Wire Products

Wire nails, \$3.50 base per keg; galvanized, 1 in. and longer, including large-head barbed roofing nails, taking an advance over this price of \$1.50, and shorter than 1 in., \$2.00. Bright basic wire \$3.25 per 100 lb.; annealed fence wire, Nos. 6 to 9, \$3.10; galvanized wire, \$3.80; galvanized barbed wire and fence staples, \$4.20; painted barbed wire, \$3.50; polished fence staples, \$3.50; cement-coated nails, \$3.10 base; these prices being subject to the usual advances for the smaller trade, all f.o.b. Pittsburgh, freight added to point of delivery, terms 60 days net, less 2 per cent off for cash in 10 days. Discounts on woven-wire fencing are 60½ per cent off list for carload lots, 59½ per cent for 1000-rod lots, and 58½ per cent off for small lots, f.o.b. Pittsburgh.

### Bolts, Nuts and Rivets

Large structural and ship rivets.....\$4.10 base  
Large boiler rivets.....\$4.20  
Small rivets, ¼ in., 5/16 in. and 7/16 in. diameter,  
50 per cent off list

Machine bolts, hp. nuts, ¼ in. x 4 in.  
Smaller and shorter, rolled threads. 50 and 10 per cent off list  
Cut threads .....50 per cent off list  
Larger and longer sizes.....40 and 5 per cent off list  
Machine bolts, c.p.c. and t. nuts, ¼ in. x 4 in.:  
Smaller and shorter.....40 and 5 per cent off list  
Larger and longer .....35 and 5 per cent off list  
Carriage bolts, ½ in. x 6 in.:  
Smaller and shorter, rolled threads. 45 and 5 per cent off list  
Cut threads .....40 and 5 per cent off list  
Larger and longer sizes.....30 and 10 per cent off list  
Lag bolts .....50 and 10 per cent off list  
Plow bolts, Nos. 1, 2 and 3.....50 per cent off list  
Plow bolts, Nos. 4 to 10.....50 plus 20 per cent off list  
Hot pressed nuts, sq. blank.....2.50c. per lb. off list  
Hot pressed nuts, hex. blank.....2.50c. per lb. off list  
Hot pressed nuts, sq. tapped.....2.25c. per lb. off list  
Hot pressed nuts, hex. tapped.....2.25c. per lb. off list  
C.p.c. and t. sq. and hex. nuts, blank.....2.50c. per lb. off list  
C.p.c. and t. sq. and hex. nuts, tapped.....2.25c. per lb. off list  
Semi-finished hex. nuts:  
¾ in. and larger.....65 per cent off list  
9/16 in. and smaller.....70 and 10 per cent off list  
Stove bolts in packages.....75-10 per cent off list  
Stove bolts in bulk.....75.10-2½ per cent off list  
Tire bolts .....60-10 per cent off list.

The above discounts are from Nov. 1, 1919.

All prices carry standard extras, Pittsburgh basis.

### Wire Rods

No. 5 common basic or Bessemer rods to domestic consumers, \$55; chain rods, \$60; screw, rivet and bolt rods and other rods of that character, \$60. Prices on high carbon rods rods are irregular. They range from \$65 to \$85, depending carbons.

### Railroad Spikes and Track Bolts

Railroad spikes, ½ in. 9/16 in. and larger, \$3.35 per 100 lb. in lots of 200 kegs of 200 lb. each or more; spikes, ¾ in., 7/16 in. and smaller, \$3.85 to \$4 per 100 lb. in lots of 200 kegs of 200 lb. each or more; track bolts, \$4.35 to \$4.50 per 100 lb. in carload lots of 200 kegs or more, with the usual extras for small lots. Boat and barge spikes, \$3.85 to \$4 per 100 lb. in carload lots of 200 kegs or more, f.o.b. Pittsburgh.

### Terne Plates

Prices of terne plates are as follows: 8-lb. coating, 200 lb., \$13.80 per package; 8-lb. coating, I. C., \$14.10; 12-lb. coating, I. C., \$15.80; 15-lb. coating, I. C., \$16.80; 20-lb. coating, I. C., \$18.05; 25-lb. coating, I. C., \$19.30; 30-lb. coating, I. C., \$20.30; 35-lb. coating, I. C., \$21.30; 40-lb. coating, I. C., \$22.30 per package, all f.o.b. Pittsburgh, freight added to point of delivery.

### Iron and Steel Bars

Steel bars at 2.75c. from mill. Bar iron, 3.10c.

### Wrought Pipe

The following discounts are to jobbers for carload lots on the Pittsburgh basing card:

Butt Weld				Iron			
Steel		Black Galv.		Inches		Black Galv.	
1/8, 1/4 and 3/8	50½	24		1/8 and 1/4	29½	2½	
1/2	54½	40		1/2	30½	3½	
3/4 to 2	57½	44		3/4 to 1½	34½	16½	
					30	23½	
Lap Weld				Lap Weld			
2	50½	38		1½	24½	3½	
2½ to 6	53½	41		1½	31½	17½	
7 to 12	56½	37		2	32½	18½	
13 and 14	41	..		2½ to 6	34½	21½	
15	38½	..		7 to 12	31½	18½	
Butt Weld, extra strong, plain ends				Butt Weld, extra strong, plain ends			
1/8, 1/4 and 3/8	46½	29		1/8, 1/4 and 3/8	28½	11½	
1/2	51½	39		1/2	33½	20½	
3/4 to 1½	55½	43		3/4 to 1½	39½	24½	
2 to 3	58½	44					
Lap Weld, extra strong, plain ends				Lap Weld, extra strong, plain ends			
2	48½	37		1½	25½	10½	
2½ to 4	51½	40		1½	31½	17½	
4½ to 6	54½	39		2	30½	20½	
7 to 8	46½	33		2½ to 4	35	23½	
9 to 12	41½	28		4½ to 6	34½	22½	
				7 to 8	26½	14	
				9 to 12	21½	9½	

To the large jobbing trade an additional 5 per cent is allowed over the above discounts, which are subject to the usual variations in weight of 5 per cent.

On butt and lap weld sizes of black iron pipe, discounts for less than carload lots to jobbers have been seven (7) points lower (higher price) than carload lots, and on butt and lap weld galvanized iron pipe have been nine (9) points lower (higher price).

### Boiler Tubes

The following are the prices for carload lots, f.o.b. Pittsburgh:

Lap Welded Steel	Charcoal Iron
3½ to 4½ in.....40½	3½ to 4½ in.....-16
2½ to 3½ in.....30½	3 to 3½ in.....- 1½
2 in.....24	2½ to 2¾ in.....+ 1
1½ to 2 in.....19½	2 to 2½ in.....+10
	1½ to 1¾ in.....+20

Standard Commercial Seamless—Cold Drawn or Hot Rolled

Per Net Ton	Per Net Ton
1 in. ....\$327	1½ in. ....\$207
1½ in. ....267	2 to 2½ in.....177
2 in. ....257	2½ to 3½ in.....167
2½ in. ....207	4 in. ....187
	4½ to 5 in.....207

These prices do not apply to special specifications for locomotive tubes nor to special specifications for tubes for the Navy Department, which will be subject to special negotiations.

### Sheets

Makers' prices for mill shipments on sheets of United States standard gage in carload and larger lots are as follows:

Blue Annealed Bessemer	Cents per lb.
No. 8 and heavier.....	3.50
Nos. 9 and 10 (base).....	3.55
Nos. 11 and 12.....	3.60
Nos. 13 and 14.....	3.65
Nos. 15 and 16.....	3.75

### Box Annealed, One Pass Cold Rolled—Bessemer

Nos. 17 to 21.....	4.15
Nos. 22 to 24.....	4.20
Nos. 25 and 26.....	4.25
No. 27.....	4.30
No. 28 (base).....	4.35
No. 29.....	4.45
No. 30.....	4.55

### Galvanized, Black Sheet Gage—Bessemer

Nos. 10 and 11.....	4.70
Nos. 12 to 14.....	4.80
Nos. 15 and 16.....	4.95
Nos. 17 to 21.....	4.20
Nos. 22 to 24.....	4.25
Nos. 25 and 26.....	5.40
No. 27.....	5.55
No. 28 (base).....	5.70
No. 29.....	5.95
No. 30.....	6.20

### Tin-Mill Black Plate Bessemer

Nos. 15 and 16.....	4.15
Nos. 17 to 21.....	4.0
Nos. 22 to 24.....	4.25
Nos. 25 to 27.....	4.30
No. 28 (base).....	4.35
No. 29.....	4.40
No. 30.....	4.40
Nos. 30½ and 31.....	4.45

## STILL IMPROVING

### Operations of Plants in the Mahoning Valley Are More Satisfactory.

YOUNGSTOWN, Ohio, Nov. 18.—Operations were between 65 and 75 per cent of normal in Mahoning Valley steel plants at beginning of the ninth week of the steel strike. Additional departments are getting under way daily. Sixteen of 25 blast furnaces are producing iron, while ingot output is approaching 75 per cent of normal. Sheet mill schedules are rapidly accelerating, the only difficulty encountered being shortage of unskilled workers.

Evidences are accumulating of friction between the national committee of the American Federation of Labor, directing the strike, and officials of the Amalgamated Association of Iron, Steel and Tin Workers. Whereas M. F. Tighe, Pittsburgh, president of the Amalgamated, has advised members to abide by their agreements with contract mills, representatives of the national committee assert such workers who resume will be regarded as "Scabs." J. E. McCadden, district organizer at Youngstown, Ohio, for the A. F. of L., in published statements, declares Amalgamated members who return to work will be considered as deserters from the ranks of organized labor.

The Amalgamated has a number of strong lodges in this district, and it was upon advice of the organization's leaders that members returned at the Trumbull Steel Co., Sharon Steel Hoop Co., Brier Hill Steel Co. and the Girard, Ohio, works of the A. M. Byers Co., Pittsburgh, which operates 88 puddling furnaces.

### Anxious to Go to Work

Employees at the Aetna-Standard works of the American Sheet & Tin Plate Co. at Martin's Ferry, Ohio, held a mass meeting late last week, and voted to return to work as soon as the plant could be made ready for them. This plant was closed when the steel strike started, and no attempt has been made to put it in operation. The strikers are very tired of the situation, having received no strike benefits, and are now anxious to get back to work. It is likely this plant will be started this week, in part at least.

### Philadelphia Steel Club Has First Party

The Steel Club, an organization of sales managers of steel companies in Philadelphia, held its first dinner and entertainment Friday evening, Nov. 14, at the Ritz-Carlton Hotel, Philadelphia. The club consists of 30 members, each of whom brought two guests on this occasion. A dinner was followed by a cabaret show. Members of the club are as follows:

Craig Adair, Penn Seaboard Steel Corporation; William Breeden, Lackawanna Steel Co.; S. J. Cottsworth, Lorain Steel Co.; G. Clinton Fogwell, Jones & Laughlin Steel Co.; W. L. Fotherall, Republic Iron & Steel Co.; H. B. Gaylord, Carpenter Steel Co.; F. H. Gordon, Lukens Steel Co.; C. O. Hadley, Alan Wood Iron & Steel Co.; William L. Hoffman, Brier Hill Steel Co.; Frank W. Jones, Eastern Steel Co.; Walter B. Kennedy, Bethlehem Steel Co.; Paul V. King, Worth Steel Co.; Frank J. Krouse, Midvale Steel & Ordnance Co.; A. B. Miles, Brier Hill Steel Co.; H. S. Moore, Central Iron & Steel Co.; William H. Oliver, Republic Iron & Steel Co.; LeRoy Richards, Nagle Steel Co.; Henry Rose, American Steel & Wire Co.; G. T. Shants, Lukens Steel Co.; T. W. Simpser, American Sheet & Tin Plate Co.; W. S. Stephenson, American Rolling Mills Co.; L. R. Steuer, Midvale Steel & Ordnance Co.; S. H. Truitt, LaBelle Iron Works; H. G. Uphouse, Donner Steel Co.; Ray P. Farrington, Trumbull Steel Co.; A. H. Corderoy, Phoenix Iron Co.; Frank Wallace, Central Steel Co.; Lee R. Stewart, Bethlehem Steel Co.; John F. Wetzel, Superior Steel Co.; H. Lindley Crowther, Sharon Steel Hoop Co.

William L. Hoffman, president of the club, was master of ceremonies. Guests at the dinner included many of the officials of steel companies from Pittsburgh, Youngstown and other cities, and representatives of the trade papers.

### Pittsburgh Foundrymen's Association

The regular monthly meeting and dinner of the Pittsburgh Foundrymen's Association was held in the Hotel Chatham, in that city on Monday evening, Nov.

17. Col. C. G. Smith, president of the Union Steel Casting Co., Pittsburgh, who was production manager of army ordnance, New York district, during the war, and later a manager of the Claims Board, was present, and gave a very interesting talk on his work. Eugene S. Willis of the Safety First Supply Co., was also present, and read a paper on "Safety First Applied to the Foundry." New members recently added to the Pittsburgh Foundrymen's Association are as follows: Berry Metal Co., New Brighton, Pa.; Independent Pneumatic Tool Co., Pittsburgh; Knox Andresen Tool Co., Pittsburgh; W. E. Moore, Pittsburgh; Thos. H. Reynolds, Pittsburgh; Shepard Electric Crane & Hoist Co., Pittsburgh, and E. A. Wilcox, Pittsburgh.

### Philadelphia Machinery Market

Orders for machine tools are coming in at a very satisfactory rate to Philadelphia machinery dealers. The demand for second-hand machines is exceptionally good, due no doubt to the delay in deliveries of new tools. The Martlett Hayward Co., Baltimore, Md., has bought \$60,000 worth of new plate and angle shop equipment, including punches, shears and spacing tables, for a new shop to be started in a building formerly used for munitions. The Auto Car Co., Ardmore, Pa., is buying turret lathes, multiple spindle drills, radial drills and other equipment to increase its output of motor trucks. One order was for 11 turret lathes and another was for four multiple spindle drills. The Crown Cork & Seal Co., Baltimore, Md., has bought a few tools.

### Government Sales of Scrap

WASHINGTON, Nov. 18.—The Division of Sales of the War Department has cleaned up its surplus of shell steel billets. After considerable negotiation in which it declares numerous dealers in steel participated, the Ordnance Department sold its remaining surplus of this commodity to E. A. Schwarzenberg, Cleveland. The total approximated 106,000 tons, and was sold at \$33 per gross ton, f.o.b. Pittsburgh. The bids submitted to the War Department for this stock of billets ranged from \$29 to the figure at which the sale was consummated.

"The steel" says a War Department statement, "was acquired by E. A. Schwarzenberg, for rolling and forging purposes." It is located at Boston, Buffalo, Pittsburgh, Cleveland, Chicago, St. Louis, Cincinnati and Toledo.

The Ordnance Department has recently sold by negotiation 71,000 tons steel shell forgings to Briggs & Turivas, Chicago, as reported in THE IRON AGE last week. These stocks of forgings were also sold by negotiation, bids having been made by a number of dealers in steel scrap. The sale of forgings to Briggs & Turivas consisted of 20,000 tons at \$24.05 per gross ton and 51,000 tons at \$24.50 per gross ton f.o.b. Pittsburgh. These tonnages constituted the entire present surplus of shell forgings, slugs, and unit billets held by the Ordnance Department.

The Ordnance Department will soon offer for sale by negotiation its present surplus of cold drawn screw stock steel and hot rolled bars approximately 25,000 tons, and its present surplus of miscellaneous scrap, including both iron and steel which approximates 40,000 tons. Informal bids on this material will be requested.

### Canada Affected by Strike

WASHINGTON, Nov. 18.—Canada has felt the effect of the steel strike in the United States, according to a report made by Consul Felix S. Johnson at Kingston.

"Canada is not producing galvanized sheets for the trade," says the report, "the result being that large quantities have to be imported from the United States. The present situation is aggravated by the strike in the United States; supplies of raw material are cut off.

"Jobbers have a lot of sheets contracted for at low prices, but most of this is sold so that on any old business, no matter how long delayed, the prices will be the same. This will have a tendency to keep prices down. While conditions may more or less warrant an increase in price, Canadian firms aim to keep the prices normal and reasonable."



# Steel Works of Lorraine and the Saar—II

## Survey by a British Commission—Features of Steel Works Practice—Wages and Other Costs in the Saar Valley.

[Below is given a continuation of the report of a commission of steel works engineers and others appointed by the British Ministry of Munitions to examine into conditions at the iron and steel works in Lorraine, in the occupied areas of Germany and in Belgium and France. The first part of the report appeared in *THE IRON AGE* of Nov. 13. A third instalment is to follow.]

### Well Equipped Steel Works

In nearly all the steel works arrangements as regards both lay-out and equipment are excellent. Many useful devices were seen. Some of the mills are well schemed, very economical in working, and give large outputs. Electrical cranes and labor-saving devices are employed wherever possible. Nearly all works had mixer platforms and converters on the same level as the casting road to the blast furnace, to save needless handling of the hot metal ladle. Manual labor is reduced to the minimum in most cases.

It is common to see duplicate mills installed to ensure that time is not lost while charging rolls, etc. Some cogging mills are provided with duplicate drive, to preserve the continuity of work in the mills in case of one engine breaking down at any time, and also to secure regularity of output in the Bessemer shop, where there are many unheated (Gjers type) soaking pits, which are only suitable for a continuous and regular flow of hot ingots from the Bessemer shop to the blooming mills. Those mills which are steam driven are nearly all equipped with reversing and continuous running compound engines, and the most modern reversing engines are three-crank. Central condensing plants are usually installed.

The mechanical appliances for handling the piece at the cogging mill were practically identical at all works, and consisted of long, heavy moving guides operated simultaneously on both sides of the rolls, each guide being kept in alignment with its fellow guide on the opposite side of the mill. On the side nearest the soaking pits one guide is provided with tilting fingers for turning the bloom over. The advantage of this arrangement over the ordinary type of manipulator found in this country is that the bloom is kept straight the whole time during rolling, the guides being worked so close to the piece that bending towards the cooler side in the case of an ingot unevenly heated is impossible; the result being that cogging is performed rapidly while the piece is at a good heat, with a corresponding reduction in the power required per ton of output. A similar manipulator has just been built by Davy Brothers, of Sheffield, for a new cogging mill in the North of England, and will be the first of its type to be used in Great Britain. The mill housings are of heavy construction; modern appliances are installed for satisfactory economical finishing of products, such as modified Morgan hot banks, straightening, sawing and shearing machines, etc.

Overhead cranes are provided over hot banks, and run right out over covered stock yard and open stockyard beyond, and so obviate any unnecessary handling.

### Steel Works Practice

As already stated, the bulk of the steel works output is made by the basic Bessemer process—hot metal being supplied from the mixers to the converters. The mixers were generally of large capacity (from 800 to 1,400 tons), and the general tendency was to install larger units. A very large tonnage of steel is obtainable, the normal number of "blows" being about 30, or even more, per 12-hr. shift, and although the loss in the process of conversion is about 12 per cent, it is doubtless more profitable in the long run in this district than to employ on an equally large scale the open-hearth basic process, where, with cold charges, the normal number of tappings would be three to four per 24 hours, when the high fuel costs for producer gas and the comparative absence of scrap are taken into

consideration. It is to be noted that where open-hearth steel furnaces are installed they work with charges containing 75 per cent to 80 per cent of scrap, and 25 per cent to 20 per cent of pig iron. Moreover, they reckon to get three or four, and even five, tappings per 24 hr., all of which conditions compare favorably with the average English practice.

In some works ingots were cast on cars direct from the crane, and at other works from a steam or electrically-driven casting car. This remark applies particularly to the steel works in the Lorraine district, where there are fewer open-hearth furnaces than in Saar district, in comparison to relative total steel outputs. Nearly all Bessemer plants are provided with an oil-fired furnace for melting ferromanganese, which is added to the steel in the molten state to insure proper mixing and reduce consumption.

There are not many electric furnaces installed at present. They are mostly arranged to take liquid basic Bessemer steel. They are chiefly used in conjunction with the works steel foundries. It was noted that the practice is becoming almost general of using cast steel ingot molds, for which it is claimed they last from 150 to 200 charges, that they are cheaper and more durable than hematite iron ingot molds. Most of the steel works visited have an efficient, well-planned steel foundry, and produce all their requirements, including rolls.

The output from the mills is generally of ordinary merchant quality, sold without guarantee or test for the most part, and consists of plates, sheets, rails (light and heavy), steel sleepers, hoops, wire rods and sections (joists, channels, tees, angles, flats and bars). The number of plate mills is comparatively small. The steel appeared to be of good regular quality, the ingots rolled down clean and free from cracks. A fine new tin plate mill has been installed at Dillingen. It was started before the war, but has not yet been put to work. It is all but completed. Tin was not obtainable.

### Large Stocks of Finished Product

The commission was much impressed with the splendid stock yards at most of the mills. It would seem to be the common practice to carry very large stocks of all sections rolled. These stock yards are generally roofed over, arranged with labeled racks and stands, and equipped with fast-running, lifting and traversing electric cranes. All the material is cold-straightened before being placed into stock, no extra charge being made for this service. Apparently the steel works execute from stock a large number of orders which they receive, by this means ensuring the prompt delivery to their customer and eliminating the merchant. Acting as their own warehousemen, they can readily execute orders for any number of sizes, presumably securing to themselves the merchant's profit. In this country steel-making and stockholding are separate businesses; in Lorraine especially they are carried on by the same concern, and, judging from the large stocks held, the combination would appear to be regarded as profitable. At the Rombach works there was 27,000 tons in stock, and at Hayange Mr. De Wendel's normal stock was about 15,000 tons. It is clear from the general outfit of the stock yards that it is the practice to carry heavy stocks.

### Saar Valley Costs

Since about the second week in April the workmen's hours have been reduced from 12 to 8 per shift in the Saar Valley area and came into operation immediately in Lorraine area. It was too early for the commission to learn any details as to the effect on costs of production. It may be of interest, however, to give here the following costs which were ruling in the Saar Valley area in April, 1914, and April, 1919, the latter imme-

diately before the inauguration of the eight-hour day:

	April, 1914 Per ton	April, 1919 Per ton
Coke delivered .....	18.7 mks.	66.0 mks.
Coal delivered .....	10.6 to 16.0 mks. (according to quality)	38.0 to 47.0 mks. (according to quality)
Basic pig-iron delivered Saar Works .....	55.0 mks.	235.0 fra. (f.o.t. Thionville, Lorraine)
Steel plates .....	140.0 mks.	940.0 mks.
20-per cent ferro-manganese .....	180.0 mks.	857.0 mks.
Hematite .....	89.2 mks.	381.0 mks.
Firebricks, per 1,000 .....	22.0 mks.	87.0 mks.
Silica bricks, per 1,000 .....	40.0 mks.	160.0 mks.
Basic slag, per kilo. of P <sub>2</sub> O <sub>5</sub> .....	24.5 pf.	56.0 pf.

100 pfennig = 1 mark = 1 shilling at par).

The following tables show the wages in the two districts compared with pre-war rates:—

	Lorraine		Saar Valley	
	Pre-war.	Present time.	July, 1914	In 1918-19
	Wages Marks	Hours in shift	Wages Marks	Hrs. in shift
Blast furnace keeper....	6	12		
Blast furnace helper....	6	12		
Ore miner .....	10	9		
Average cost per man in steel works .....	6.25	12		
				Month
				Oct. 1918
				Dec. 1918
				Feb. 1919
				Apr. 1919
				Apr. 1919
				Apr. 1919
				Now working 8-hr. shift with no reduction in wages

Wages stated to be 25 per cent. below those obtaining in Westphalia.

In 1914 the mark was equivalent to 1s.; at the date of the commission's visit it was only worth 4d. and has since further declined.

#### France's New Capacity

The approximate total capacity per month of the Saar Valley district is: 250,000 tons of basic Bessemer steel, 13,000 tons of basic open hearth steel.

Although the present condition of the machinery may not be quite all that could be desired, there is not at present time much that cannot be put to work in case of need. During the past six months a great deal of work has been done in the way of renewals where necessary, and at the present time there is nothing to prevent the different works from giving a large output if the fuel difficulty could be overcome. The acquisition by the French of these areas, and their corresponding loss to Germany, should be of advantage to British industries on the whole. It is probable that France may become a competitor with Britain, in so far as her surplus steel production is concerned, taking the place of Germany to some extent, but not until the destroyed works have been reconstructed and full production reached, in three to five years hence. With France's new possession of Lorraine and the Saar Valley she is in a position to produce 11,000,000 tons of pig iron annually. In 1913 France's production of pig iron was about 5,000,000 tons. Prior to the war German steel-makers frequently complained of the difficulty of obtaining adequate supplies of foreign ores, which was one of the chief causes of the war, as they hoped thereby to obtain possession of France's ore reserves. Without the acquisition of the Lorraine iron ore deposits in 1871 it would have been quite impossible for the German iron and steel industry to have developed as it did.

It would appear that France's great acquisition of further supplies of ore will enable her to develop her future trade at the expense of Germany. It would appear that, outside France, Germany can only expect to obtain ore from Sweden or Spain, but as both these countries are actively developing their steel industries they will probably not have very much to spare. Incidentally, in the year 1916 Spain and Sweden only produced about 12,000,000 tons of iron ore—or, roughly, 15,000,000 to 20,000,000 tons less than that required by Germany—but with a higher iron content.

#### France Greatly Needs Coal

The control by France of the coal in the Saar Valley area is estimated to enable her to produce twice the

tonnage formerly obtained from the Valenciennes district. Before the war the Saar coal fields produced 17,000,000 tons annually. But the ideal of the French iron and steel makers in the Lorraine area at the present time is that means should be devised whereby a reciprocal business may be done with Great Britain, by their supplying us with basic pig iron, while we supply them with furnace coke or coking coal. If the anticipated output of oven coke in this country is realized we should have some to spare, but the difficulties of transport, trans-shipment, etc., and the resultant breakage, are serious factors to be considered. Possibly the solution of the present problem may be found in the erection of coke ovens in Lorraine, close to the furnaces, and the production of coke on the spot from a mixture of Saar coal and Durham coking coal. The supply of the latter, however, cannot take place until better and cheaper means of transport are available.

The French dread the present position of dependence upon Germany for coke supplies, as, although the Peace Treaty may give France control of the Saar Valley coal fields for 15 years, the fact remains that under existing conditions they must have coal or coke from Westphalia for their blast furnaces, the coke from Saar coal alone apparently not being satisfactory, so that so long as this position continues their industry will remain to a great extent at the mercy of the Germans.

It is true that Germany will want iron ore from Lorraine (in 1913 she took 14,000,000 tons from Briey and 18,500,000 from Lorraine), but she will not be so entirely dependent upon this one source of supply as the Lorraine works will be upon Germany for coke, unless some means are provided to enable Lorraine to obtain coke from elsewhere or to produce her own needs from Saar coal and imported coking coal. Various schemes for improved transport are under contemplation by France. Apparently the construction of a canal to Dunkirk from the Briey district, known as Canal du Nord et de l'Est, has been under consideration for a long time. This will take five years to complete, and is not generally favored by the French steel-makers in Lorraine, owing to the enormous cost of construction and the great difficulties to be overcome in cutting through the densely populated industrial areas of Northern France. The scheme most favored is the canalization of the Moselle, from Coblenz to Thionville, and thence to Metz, coupled with free navigation of the Rhine to Rotterdam; or by canal from the Rhine to Antwerp via Maastricht. Either of these schemes, it is considered, would be cheaper and more quickly made operative than the canal to Dunkirk above-named. It is estimated that the cost of this Moselle canalization scheme would be 15 to 20 million pounds, including also the canalization of the Saar to where it joins the Moselle at Kunz, from Brebach.

The strong feeling in favor of this scheme to enable reciprocal business to be done with this country is accentuated by the treatment accorded to the Lorraine steel works by Germany at the present time in the matter of coke supplies. We, in this country, have been short of basic pig iron for a long time, and there is every prospect of the shortage continuing, and some such reciprocal arrangement as that put forward might be of advantage to both countries. The present cost at Hagondange of making basic pig iron in Lorraine is about 200 francs per ton, say 143s. at the present rate of exchange (28 francs to £).

At some works rather lower coke consumptions are being obtained, but the ore may cost slightly more, and the overall cost of production is generally very close to the figure quoted, which is made up as follows:—Cost of iron ore, about 30 francs; cost of coke, about 105 francs; cost of labor and oncosts, about 65 francs. Total, about 200 francs. The selling price at the time of the visit was 235 francs, say £8 7s. 6d., per ton f.o.r. Thionville. The present cost of Westphalian coke at the ovens is about 60 francs (43s.) per ton, carriage by rail 12 francs (8s. 6d.), making 72 francs (51s. 6d.) per ton at the blast furnaces. A new quarterly ascertainment of prices was to be made, and it was expected that the prices would be substantially advanced, largely due to the unsettled labor conditions, the institution of the eight-hour day, the abnormal exchange and other causes. In the Saar Valley the cost of production of basic pig



iron was given as 305 marks. If coke were brought from Westphalia to Lorraine by rail and water, the cost of carriage would be reduced considerably, but the opinion was expressed generally that the extra breakage to the coke would more than offset any such saving. The use of Saar coke alone is nowhere favored, and is regarded as more wasteful in the blast furnaces than Westphalian coke at the higher cost.

The cost of winning the iron ore in Lorraine is becoming greater by reason of the fact that mining is necessarily at constantly increasing depths. Very little ore is now obtained by open workings. Moreover the miners are agitating for shorter hours and increased pay; at present a good average miner earns 25 to 30 francs per day. It becomes questionable if the furnaces in Lorraine and Saar Valley will in future be able to produce basic pig iron at a lower cost than it can be made in Great Britain, for while these areas may be better placed as regards ore, they are much worse placed as regards fuel.

With regard to steel, the cost of making basic Bessemer ingots in Lorraine is from 7 to 15 francs (say 5s. to 10s.) per ton less than basic open-hearth ingots. The labor costs in the rolling mills are considerably lower than in this country, quite apart from improved mechanical equipment. At the present time a head roller in a large section mill earns from 15 to 20 francs (11s. to 15s.) per shift. The average wages paid to the other mill hands are lower than in Great Britain. When all these matters are considered, it would appear that the works visited by the commission can produce ordinary quality finished steel at a lower rate than the best-equipped works in Great Britain, probably by about 10s. to 15s. per ton.

There is a possibility of our doing business with Lorraine in mill machinery, the bulk of which has been supplied hitherto from Germany. It appears, however, that when one of the signatories of the present report recently visited the St. Chamond Works (St. Etienne)

of the Société de la Marine et d'Homécourt, he found that they were adapting themselves to the manufacture of mill machinery, locomotives, etc., to replace their previous ordnance work.

There is not likely to be an opening for us for large gas-blowing and power engines, as the Société Alsacienne, at Mulhouse, are very experienced in this class of work, and are better situated than ourselves.

#### Fuel Economies

There is no doubt that economy in fuel consumption is very fully effected in the works covered by the report, owing to the absence of cheap and suitable fuel, and the dependence of the works in the areas upon Westphalian coke. All the waste heat is utilized. At every works the blast-furnace gas is suitably cleaned and fully absorbed. The works at Homécourt may be cited as an instance; before the war they were producing 9,000 tons of pig iron and 7,000 tons of steel weekly, and they only used 40 tons of coal per day, all the other power raising being effected by the blast-furnace gas. This is quite typical. The molten metal from the blast furnaces is taken direct to the mixers in the adjacent steel works. All engines for blowing and power generation are worked by cleaned blast-furnace gas. They are of the slow-speed horizontal type, and usually 4-cycle. Apart from the economy effected in the large power stations, the blast-furnace practice adopted makes for a greater amount of surplus power for other than blast-furnace purposes per ton of pig iron produced. Waste heat boilers were installed for the recovery of the heat in the exhaust gases from the power engines, it being stated that the exhaust gases from a 3,000-H.P. engine were capable of evaporating 2,400 lb. of water per hr. to a pressure of 225 lb. per sq. in. and 100 deg. Fahr. of superheating.

Some of the soaking pits in the steel works were heated by regenerated blast furnace gas, as also some of the heating furnaces in the mills. Nearly all steam-raising is effected by utilization of surplus gas.

## ARMISTICE DAY TROUBLES

### Controversy in Quincy, Mass.—Employees in New England Fail to Agree

The union officials representing the various crafts at the Fore River Plant of the Bethlehem Shipbuilding Corporation, Ltd., Quincy, Mass., the other day provoked the ill feeling of the employees.

The plant is engaged on Government work and therefore is operating on a cost plus basis. Under its present working agreement with the Washington authorities, all double pay for Sunday and holiday work is eliminated. Because of the holiday Tuesday, Nov. 11—Armistice Day—the Fore River officials desired to close the plant on Monday as well as Tuesday, figuring the men would not care to work Tuesday in view of the circumstances.

This news became generally known throughout the yard almost as soon as the officials decided to take such action. General dissatisfaction was expressed among the workmen because of the contemplated loss in pay. Eventually, on their own responsibility, the men held a meeting and voted to work Tuesday, Nov. 11, at straight pay, provided the management would operate the yard on Monday.

Union officials, hearing of this action, posted notices near the various gates to the effect that any member of the union caught working on a holiday at straight pay would be fined \$100. These notices were posted Monday, Nov. 10. The Fore River management paid no attention to the notices or the notification by union officials that any man working Tuesday would have to be paid for double time.

The following morning, Tuesday, about a thousand men showed up at the plant for work, most of them non-union. The 7,000 to 7,500 other employees remained away on threats of being fined \$100. They spent much of the holiday, evidently, in venting their personal opinion of the union officials, for on Wednesday it was rumored about the Quincy shipyard that the members of the union were unanimous in the opinion that their present union officials should be removed from office as soon as possible.

The union officials are hoping the temper of the men will cool off after a while, and are keeping away from the men as much as possible. Operations at the yard on Armistice Day naturally were far below normal, and the Government was out of pocket as a result. The workmen lost an opportunity to show their patriotism by working a holiday at straight pay. The union officials were the only ones to gain anything. They gained the ill will of the men who pay their official salaries.

#### Declared a Common Carrier

WASHINGTON, Nov. 18.—The Interstate Commerce Commission has declared the Chicago & Calumet Railroad to be a common carrier, and therefore lawfully entitled to participate in interstate rates with other common carriers, or to have its charges on interstate shipments absorbed under proper tariff provisions by the roads having line haul. This will make important changes in switching charges for a number of steel industries in the Chicago district. The railroad itself was incorporated as a switching road in August, 1901. Practically all its stock is owned by the Western Steel Car & Foundry Co., and the president and vice-president of the latter are also officers of the railroad corporation. It keeps its own accounts, however, and has a separate operating force. The company also serves the Ryan Car Co., the Camel Co., and the General Fuel & Supply Co., which have no affiliation with the foundry concern. It is now arranging with the Koppel Industrial Car & Equipment Co. and the Fidelity Storage Co. for similar service. So far, the company has not shared in the increased rates made effective by the Railroad Administration, but the Interstate Commerce Commission's rulings will entitle it to its portion of the new rates. The commission ordered the company to file a new schedule of rates for its approval.

Since Nov. 1, all shipments made by Acme Stamping & Tool Works, Ltd., Allith Mfg. Co. Ltd., Safety Door Hanger Co. Lt., Hamilton, Ont., have been invoiced by Slater & Barnard, Ltd., who own and operate these three companies. All purchases made by any of these three companies will also be charged to Slater & Barnard, Ltd.

### Wartime Changes in Wages

Average wages of men in eight leading industries, as measured by average hourly earnings, increased all the way from 74 per cent to 112 per cent during the period from September 1914, to March, 1919, according to a report on "Wartime Changes in Wages" issued by the National Industrial Conference Board, 115 Beacon Street, Boston. Increases in weekly earnings of men ranged from 62 per cent to 110 per cent. Percentage increases in earnings of female workers were broadly similar in the respective industries, with, however, a somewhat wider range.

The eight industries included were metal, cotton, wool, silk, boot and shoe, paper, rubber, and chemical manufacturing. The average results are based on payroll data for one week, usually the third week of September, for the years 1914 to 1918, and for the first week of March, 1919. A noteworthy feature of the results is that the highest percentage increases in earnings often were recorded in cases where the absolute earnings were relatively low, or vice versa. The increases shown were in most cases greater than the corresponding percentage increase in cost of living, which was placed by a previous report of the board at 61.3 per cent for the period from July, 1914, to March, 1919.

In the main, the percentage increases in earnings of piece-workers were greater than in those of time-workers. Actual earnings of piece-workers were in a majority of cases likewise greater than those of time-workers in the same occupational group, but the exceptions to this rule were rather numerous.

A summary shows that in the metal industries the average hourly earnings of male workers for one week in September, 1914, was 28.9 cents; in September, 1918, 49.5 cents; in March, 1919, 50.2 cents; increase respectively of 71 per cent and 74 per cent over the 1914 wage. Similar earnings of female workers was 14.9 cents in the same period of 1914; in September, 1918, 30.9 cents; in March, 1919, 31.4 cents; respective increases of 107 and 111 per cent.

Similar average weekly earnings of male workers in metal industries were \$13.18 in September, 1914; \$26.80 in September, 1918; \$24.75 in March, 1919; respective increases of 103 and 88 per cent. For female workers such wages were \$6.45, \$14.35 and \$14.50, respective increases of 122 and 125 per cent.

The average hourly earnings of male workers in the metal trades were 50.2 cents in March, 1919, against 28.9 cents in September, 1914. In addition to the data for entire industries the report also presents averages for 63 occupational groups of male workers, and for 30 groups of female workers in these industries.

### New York Business Publishers' Association

The New York Business Publishers' Association, Inc. celebrated its thirtieth anniversary at the Automobile Club, New York, Wednesday evening, Nov. 5.

Addresses were made by C. R. Clifford on "How the Association Was Started," H. M. Swetland on "Thirty Years Ago and Now" and James T. McCleary, secretary of The American Iron and Steel Institute, on "Some Fundamental Conditions of Progress." Mr. McCleary's address included a strong appeal for the development of the individual and for the maintenance of the open shop. He was enthusiastically applauded.

The following officers were elected: President, Harry Tippar, Class Journal Co.; vice-president, Robert H. McCready, McCready Publishing Co.; secretary, William M. Buxman, McGraw-Hill Book Co.; treasurer, Edgar I. Buttenheim, American City.

### Engineering Meetings in Philadelphia

The Eastern Pennsylvania Chapter of the American Society of Heating and Ventilating Engineers has announced a program of meetings including the following: Dec. 11, joint meeting with American Society of Mechanical Engineers, "Oil as a Fuel," by Henry Thomas, combustion engineer Sun Co., Philadelphia, and E. H. Peabody, vice-president Babcock & Wilcox Co., New York; Jan. 8, "Air

Cleaning by the Cottrell Electrical Precipitation Process" by P. E. Landolt, Research Corporation, New York; Feb. 12, "Construction of the United States Government Explosives Plant" at Nitro, W. Va., by W. H. Driscoll, vice-president Thompson-Starrett Co., New York; April 8, "Economizers" by M. C. Sherman, mechanical engineer Green Fuel Economizer Co.; May 13, "Design of Large Boiler Plants" by J. Grady Rollow, combustion engineer E. I. du Pont de Nemours & Co., Wilmington, Del.

### Inter-Professional Conference At Detroit

To bring together the professional men of the country in order to plan more effective relations and act together on matters pertaining to the public good, an inter-professional conference is being called to meet in Detroit, Nov. 28 and 29. The conference was suggested by the post-war committee of the American Institute of Architects upon the architectural profession by the war. To date, representatives of medical, legal, education and construction professions have accepted membership on the organizing committee. It includes Calvin W. Rice, secretary, American Society of Mechanical Engineers, New York; Henry W. Hodge, bridge engineer, New York; Arthur D. Little, chemist, Cambridge, Mass., and E. J. Mehren, *engineering News-Record*, New York. The office of the organizing committee is at 56 West Forty-fifth Street, New York. The meeting in Detroit will be held at the Hotel Statler.

### Course in Industrial Management

Profiting by the unusual demands made upon industrial production within recent years, the school of economics of the University of Pittsburgh will offer a complete four-year course in industrial management in co-operation with the Pitt School of Engineering. The work in the school of economics will be centered in the fields of industrial organization, scientific management, cost accounting and employment management and will be supplemented by scientific and laboratory study along engineering lines for the student who intends to specialize in the business side of industry, but finds it necessary to have the technical side as well. Prof. John Wallace Riegel, formerly of the University of Pennsylvania, has been appointed professor of industry at Pitt and will be the head of the school of economics part of the co-operative management.

### Foreign Trade Booklet

A second edition has been issued of the booklet by the Foreign Trade Department of the National Association of Manufacturers, New York, under the title "An Export Order and Allied Topics," which traces through a series of letters, documents and forms the successive steps involved in handling a typical export transaction, from the time the inquiry is received until payment for the goods is obtained. The booklet also contains photographic reproductions of various forms and documents used in export trade and several tables which show the laws of different countries on notes and consular requirements of foreign countries. A few pages in conclusion are devoted to a description of the services rendered to members of the National Association of Manufacturers, such as credit reports, translations, lists of foreign buyers, trade opportunities, export information, foreign advertising advice and means for collecting overdue accounts.

The Follansbee Bros. Co., Pittsburgh, now operating an open hearth steel plant, sheet and tin mills at Follansbee, W. Va., but who will build a new sheet mill plant at Toronto, Ohio, has filed notice of an increase in its capital from \$2,000,000 to \$3,000,000, the increase being for the purpose of supplying funds for the building of the new plant.

The firm of J. Horstmann, Paris, dealer in machine tools, small tools and steel, has appointed Charles B. Elmore as American representative at 47 West Forty-second Street, New York. The main office of the company in Paris maintains a warehouse and demonstration rooms.



## PERSONAL

HORACE S. WILKINSON



was elected chairman of the board of directors of the Crucible Steel Co. of America, at the recent meeting of the board. He succeeds Herbert DuPuy who resigned. For several years Mr. Wilkinson was president of the Halcomb Steel Co., Syracuse, N. Y., now owned by the Crucible Steel Co. The general offices of the Crucible Steel Co. will remain in the Oliver Building, Pittsburgh. Mr. Wilkinson is also president of the Toledo Shipbuilding Co. and of the Great Lakes Steamship Co., and is a director of the Barrett Co., New York.

ALFRED OSGOOD BLAISDELL, 86, designer of the propelling machinery for monitors used by the United States Government during the Civil War, and one of the designers of the Brooklyn Bridge, died Oct. 22 at his home in Brooklyn, after two weeks of bronchitis. Mr. Blaisdell was born in Lebanon, N. H., and was graduated from Dartmouth College. He learned the machinist trade at Manchester, N. H., and Providence, R. I.

BERNHARD THEODORE BURCHARDI, 69, first vice-president of the American Machine and Foundry Co., Brooklyn, died Oct. 22 at his home in Brooklyn. Mr. Burchardi was born in Erfurt, Germany, and came to this country 47 years ago.

WARREN WEBSTER & Co., Camden, N. J., announce the resignation of Frank G. Phegley, after nine years of service as manager of the Cleveland office, in order to enter the professional field as consulting engineer in heating and ventilating work. The Cleveland office will be maintained at the same location, 706 Rose Building, but will hereafter be under the direct management of the home office. Clyde W. Colby, who has an extensive acquaintance with the heating trade in Northern Ohio, has been appointed as Cleveland district manager, and will have with him, as assistant district manager, William Roebuck, Jr., who has been a part of the home office sales-engineering organization for the past nine years.

LEONARD CROOKE, who has been with the H. Koppers Co., the Lackawanna Steel Co., and the Central Iron & Coal Co., has become general manager of the Montgomery Coal Washing & Mfg. Co.

J. B. CHILDE has been appointed general manager of the Perfection Spring Division of Standard Parts Co., in Cleveland. He was first general manager of the Hess Spring Axle Co.; then general auditor and assistant secretary of the Western Spring & Axle Co., and later vice-president and general manager of that corporation's Canton plants. He has been identified with Standard Parts since this company took over the Western business in 1917, as general manager of the Western Spring & Forge division. H. E. Clay, formerly plant manager of the Perfection Spring unit of the Standard Parts group, but who has been more recently supervising construction of the company's new spring plants in Flint and Pontiac, is appointed general manager, succeeding Mr. Childe, in the Canton division.

HARRY E. FIGGIE has been made manager of sales of the Perfection Spring division of the Standard Parts Co. He was graduated from Case School of Applied Science, and then entered the employ of Christian Girl, who was in charge of the Original Perfection Spring Co., Cleveland, to learn spring making. He advanced through every factory rank to assistant general superintendent, and later as a sales engineer he joined the selling organization. In this capacity he also advanced and continued with the Perfection sales force when that company became one in the Standard Parts group. Mr. Figgie has been active in the Cleveland section of the Society of Automotive Engineers.

F. L. ESTEP of the firm of Perin & Marshall, consulting engineers, New York, sailed on Oct. 2 on the *Mauretania* for England. S. M. Marshall of the firm plans to leave England about Nov. 1 for India.

D. H. C. TULLOCH, who preceded George D. Berry as secretary of the Boston branch, National Metal Trades Association, has become secretary of the Manufacturers' Association of Jackson, Mich.

SERGEANT EDWARD W. KEEFER, formerly eastern traveling representative Bearings Co. of America, Lancaster, Pa., has returned to his former position. Mr. Keefer enlisted for service in May, 1917, participated in several major engagements in France with the 28th division.

A. G. GIBBONS, formerly superintendent of tools and supplies for Winslow Brothers Co., Chicago, which had a contract for a million shells for the Government, has affiliated with the Wetmore Reamer Co. as production engineer. Mr. Gibbons was also formerly with the Cadillac Co. and Brown & Sharpe for many years. The Wetmore plant has been re-arranged and additional equipment installed under Mr. Gibbons's direction and the weekly production of Wetmore expanding reamers considerably increased.

J. F. PRINCE, ROBERT E. GRAHAM and T. C. CURTIS, Jr., were elected directors of Wright-Martin Aircraft Corporation.

HORTON PENROSE, for many years with Shimer & Co., in Philadelphia and Pittsburgh, has engaged in business for himself under the name of the Penmore Fuel & Iron Co., with offices at 933 Drexel Building, Philadelphia. Mr. Penrose will sell coal, coke, ferroalloys and pig iron.

C. S. CRANE has joined the Wilton Tool & Mfg. Co., Boston, as mechanical and sales engineer. He was formerly supervisor of production and inspection in the motors and vehicles division of the quartermaster's corps.

JOSEPH H. HAZLEY, who has taken care of the eastern territory for the past eight years as sales engineer, service man, etc. for Wilmarth & Morman Co., Grand Rapids, Mich., grinding machinery, has resigned to become associated with Jacobs Mfg. Co. & Rhoades Mfg. Co., Hartford, Conn., manufacturers of chucks and shapers.

T. P. DRAPER has been appointed general superintendent of the Sharon Steel Hoop Co., Sharon, Pa., in charge of operations of all its properties, succeeding George W. Short, who resigned recently. He was graduated from Yale University in 1903 and at once entered the steel business in Youngstown, being for several years with the Republic Iron & Steel Co. in various capacities in its blast furnaces, steel plants and rolling mills. In 1906, Mr. Draper went with the Inland Steel Co. at Indiana Harbor, as assistant general superintendent. He then returned to the Youngstown district as assistant superintendent of blast furnace and steel departments of the Youngstown Sheet & Tube Co. For about two years he has been identified with the Trumbull Steel Co., Warren, Ohio.

W. L. GOODRICH, New England representative for the Sizer Forge Co. left the Mercy Hospital, Springfield, Mass., Oct. 1, where he underwent an operation for appendicitis. Conrad B. Rubery has recently been appointed works manager of the Sizer Co., Buffalo. Mr. Rubery, who for several years was in charge of production at the Heppenstall Forge & Knife Co., Pittsburgh, resigned from his position there early in 1916 to take charge of shell steel production in this country for the British Munition Commission. In December, 1916, he went to England where he acted as supervisory forging engineer for the Ministry of Munitions until the end of the war.

L. SEVIER, vice-president, will retire from the Sloss-Sheffield Steel & Iron Co., Birmingham, Ala. Hugh Morrow, Birmingham, member of the law firm of Tillman, Bradley & Morrow, has been elected to succeed him and is familiarizing himself with his duties. Mr. Morrow has had no previous industrial experience except as counsel for leading industrial concerns. He is a native of Birmingham and 46 years of age.

A. I. LAING, former president and treasurer of the American Iron Products Co. Inc., 107 Liberty Street, New York, has resigned and the following officers have been elected: Charles H. Williams, president; E. Doug-

las O'Neill, vice-president; Proctor M. Denno, secretary and treasurer. The board of directors will consist of the following: Charles H. Williams, E. Douglas O'Neill, Proctor M. Denno, Herman Pregar, John F. McClure. The officers and directors are all old employees of the organization. The corporation plans for the further growth and development of its interests in foreign countries and is adding several new departments.

Philip E. Wright, for many years representative of the Thomas Iron Co., Hokendaqua, Pa., as selling agent in the New York and Philadelphia territories, will engage, Jan. 1, in the business of selling pig iron, coke, alloys, etc., on a merchant basis. His offices will remain at 628-629 Stephen Girard Building, Philadelphia. As announced last week, E. Arthur Tutein of Boston has been appointed sales agent in all Eastern territories for the Thomas Iron Co., Mr. Tutein having represented this company in Boston for several years.

William H. Chappell, formerly superintendent of the Page-Storms Drop Forge Co., Springfield, Mass., has become connected with the General Railway Signal Co., Rochester, N. Y., as superintendent of the forge department. Mr. Chappell was born in Coventry, Conn., July 10, 1876, and was educated at the Coventry Schools. He learned the die sinking trade at Billings & Spencer Co., Hartford, Conn., from 1896 to 1900. He has been in the following companies and positions: The Springfield Drop Forge Co., as die sinker; Page-Storms Drop Forge Co., as foreman in die room and in charge of shop; Locomobile Co., Bridgeport, Conn., in charge of forging department; Timken-Detroit Axle Co., Detroit, Mich., as superintendent of forge department; Bethlehem Steel Co., Bethlehem, Pa., as superintendent of forge department, and Page-Storms Drop Forge Co., Springfield, Mass., as superintendent of the plant.

Louis J. Schneider was appointed general sales manager of the Clark Tractor Co., 1122 South Michigan Avenue, Chicago, on Nov. 1. Mr. Schneider is a graduate of the Stevens Institute of Technology, Hoboken, N. J., and is a member of the Society of Automotive Engineers, as well as the American Society of Mechanical Engineers. He served in the engineering department of the Hyatt Roller Bearing Co. during 1911 and in the sales department from 1912 to 1916; during the early part of 1917 Mr. Schneider was sales manager of the Jackson Rim Co., Jackson, Mich., and later in the same year he became sales manager of the Harrison Radiator Co., Lockport, N. Y.

R. Sanford Riley, of the Norton Co., Worcester, Mass., returned recently from a European trip.

C. M. Bigger, Cincinnati district manager for the Vanadium Alloys Steel Co. for several years, resigned Oct. 1 to organize the firm of C. M. Bigger & Co. The new company will act as sales representatives in Cincinnati territory for the LeMoyné Steel Co., Pittsburgh.

F. H. Chapin has been elected president of the Upson Nut Co., Cleveland, to fill the vacancy caused by the recent resignation of Norris J. Clarke. Mr. Chapin was recently with the Hydraulic Press Brick Co., Cleveland.

C. H. Davies has resigned as general manager of the Supreme Motors Corporation, Warren, Ohio, and has been succeeded by A. M. Zimmerman, for many years connected with the Continental Motors Co., Detroit.

C. K. Sheridan has been appointed purchasing agent of M. A. Hanna & Co., at Cleveland, succeeding T. F. Cadden.

D. F. Edwards has resigned as secretary and treasurer of the Gier Pressed Steel Co., Lansing, Mich., to become associated with the new Willys Corporation, of which he will be one of the active executives at its Dusenberg plant.

E. V. Porter, 1220 Park Building, Pittsburgh, has been appointed representative in that city for Baird & Martin, Inc., 120 Liberty Street, New York, exporters of steel products. Mr. Porter is also the Pittsburgh representative of the Andrews Steel Co., Newport, Ky., in the sale of forging billets and other products.

Robert D. McCarter and William L. Cooper have formed the partnership of McCarter & Cooper, consulting engineers, 165 Broadway, New York. Mr. McCar-

ter was chief engineer of the General Electric Co. in London prior to 1902; from then until 1914 he maintained his consulting engineering office in London. He was consulting engineer for all the European Westinghouse companies and president and managing director of the Russian Westinghouse Co. He opened his New York office in 1914. Mr. Cooper, prior to establishing his office in New York in 1917, was for 15 years European manager and chief engineer for Robert W. Hunt & Co. Their purchasing department will be located at 50 Church Street.

R. J. Schuler, formerly purchasing agent Detroit Gear & Machine Co., transmissions, clutches, gears, Detroit, Mich., has been promoted to supervisor of cost production and purchases. C. E. Messerschmidt, formerly assistant purchasing agent, has been appointed purchasing agent. L. E. Stevens has been appointed assistant purchasing agent. This change went into effect Nov. 1.

F. R. Wadleigh has become associated with the Weston Dodson & Co., Inc., and Dodson International Coal Corporation, New York, as consulting and export engineer. His knowledge embraces the coal export trade, foreign coals and markets.

A. W. MELLON, a prominent banker of Pittsburgh, has been elected a director of the Crucible Steel Co. of America, Pittsburgh.

HENRY FAIRFAX AYRES, recently in service in France, has resigned as vice-president of the Dickey Steel Co., New York, to become president of the Navy Gear Mfg. Corporation, New Haven, Conn., manufacturer of transmissions for marine engines, motor cars and tractors.

EDWARD R. ABBOTT has joined the sales force of H. W. Cotton, Inc., Brooklyn, N. Y. He will have charge of the western business, making his headquarters for the present in the Woolworth Building, New York, and later at Cleveland. Mr. Abbott was formerly with the Taft Pierce Mfg. Co., Woonsocket, R. I. as a member of the sales force of its New York office for several years.

C. W. Cross has been appointed by the Chicago Pneumatic Tool Co. manager of western railroad sales, with headquarters at Fisher Building, Chicago.

G. E. ANDERSON, formerly assistant to the vice-president of the American Locomotive Co., has been appointed assistant eastern sales manager of the Duff Mfg. Co., Pittsburgh, with headquarters at 50 Church Street, New York.

GUY E. TRIPP, chairman, Westinghouse Electric and Mfg. Co., has been elected a director of the American International Corporation, succeeding J. Ogden Armour, resigned.

O. J. Lor has sailed for Europe where he will represent the Norton Co., Worcester, Mass., in Norway, Sweden and Denmark. He was representative of the company in Germany, but was interned during the war.

JOHN H. WISNER, JR., has withdrawn from the firm of Messrs. Wesselhoeft & Wisner, and Frederic H. Poor has become a partner. The business of the firm will be continued under the name of Wesselhoeft & Poor, engineers, New York and South America.

## OBITUARY

GEORGE W. JOHNSON, aged 72, died Oct. 13 at his home in New Castle, Pa. Mr. Johnson was born in Clarksburg, Mercer County. At the age of 10 he entered the employ of Wilson, Lane and Co., working in that company's mine and company store in Clinton. When a young man he became associated with William Patterson, A. R. Lee and others in limestone interests in Wampum. He later became associated with Green, Marquis and afterward bought out their interests. Mr. Johnson went to New Castle in 1880. He conducted the Arethusa Iron Works from 1885 to 1899, when it was sold to the American Sheet & Tin Plate Co. Mr. Johnson's limestone interests are quarries and mines in Lawrence, Butler, Armstrong and Blair counties of Pennsylvania and in Maryland and West Virginia. He also controlled the Johnson Bronze Co. Among his limestone interests are the Pittsburgh Limestone Co., the G. W. Johnson Limestone Co., the



Keystone Limestone Co., the Bessemer Limestone Co., the Mahoning Limestone Co., and the National Stone Co. He was known as one of the largest limestone operators in the United States.

JOSEPH JOSHUA HOGAN recently known as an expert on steel, died at Greenwich, Conn. He was 84 years old. Mr. Hogan's ancestors came from Ireland in 1732 and settled in Canada. His mother was a sister of Commodore Worden, of Boston, and in his youth Mr. Hogan went to that city. Later he was a partner in the firm of Hogan, Clarke & Sleeper. In 1873 he became associated with a cousin, Charles Hamilton, in the firm of Rogers & Hamilton, silverware merchants. Fifteen years ago he retired. Since the early eighties he had lived most of the time in New York. He is survived by two sons, George B. C. Hogan and Addison C. Hogan.

DELAKE G. THOMPSON, aged 47, chief engineer with the Hayward Co., New York, died Sept. 30 at his home in Hackensack, N. J. He was born in Norwich, N. Y. and previous to his association with the Hayward Co., where he has been for the past 15 years, was connected with T. Amory Coffin, New York; Sement-Solvay Co., Syracuse, N. Y.; C. W. Hunt Co., West Brighton, S. I., and the Meade-Morrisson Mfg. Co., Cambridge, Mass.

M. L. MURRAY has resigned as branch office manager of the Waterbury Co., 15 Murray Street, New York, and has been elected vice-president and general sales manager of the Alloy Metal Wire Co., manufacturer of electrical resistance wire, pure nickel, monel metal, etc., with temporary offices at 146 West Ninety-ninth Street, New York, and wire mills at Yonkers, New York.

ROBERT NEIL DICKMAN, Chicago mining engineer, died at La Jolla, Calif., Sept. 14, following an operation. Mr. Dickman was of the former mining engineering firm of Dickman & MacKenzie. At the time of his death, he was on the staff of Robert W. Hunt & Co. He was born in Cleveland, and was graduated at the University of Michigan in 1886. He leaves a widow and one son.

WALTER W. PHARO, one of the founders, president and treasurer of the Belmont Iron Works, structural steel and ornamental iron, Philadelphia, and president of the Tuckerton Railroad, died Oct. 17 in Beach Haven, N. J. He was born in Tuckerton, N. J. May 31, 1855, and was graduated from Haverford College in 1876. Mr. Pharo's home was in Haverford.

J. E. SAWYER, of J. E. Sawyer & Co. Inc., dealers in heavy hardware, Glens Falls, N. Y., died Aug. 23, as a result of a cerebral hemorrhage. He was 68 years old. He was one of the founders and original directors of the Glens Falls Trust Co. He is survived by his wife, two sons, and a daughter.

WILLIAM VANDERKOOGH, aged 43, a dealer in scrap in New York, died Sept. 29 at his home, Mountain Lakes, N. J. For a number of years he was with the Morton B. Smith Co., New York, leaving it about three years ago to engage in business for himself, forming the firm, Wm. Vanderkooch & Co.

FRANCIS P. R. HILL, assistant secretary and treasurer of the Cutler & Wood Supply Co., 70 Pearl St., Boston, machine tools, was killed in an automobile accident on a railroad crossing, North Woburn, Mass., Oct. 11.

FRED. C. THORNLEY, 50 East Forty-second Street, New York, has severed his connection as vice-president and general manager of, and withdrawn his interest from the International Conveyor Corporation, New York.

PETER KETTENRING, founder and for years head of the Defiance Machine Works, Defiance, Ohio, died Oct. 8, aged 83. He left two sons who are identified with the business established by their father.

H. B. ABDILL, manager furnace department, Chicago Flexible Shaft Co., 5600 West Twelfth Street, Chicago, died on Oct. 15, at the Wesley Memorial Hospital.

BRUN HAFKER, 79, head of the Hafkel Iron Works, 73 North Portland Avenue, Brooklyn, died Oct. 16 of arterio sclerosis at his home in Brooklyn.

HORACE HUDDERS, secretary-treasurer and purchasing agent Aldrich Pump Co., Allentown, Pa., died Oct. 8.

## OFFICE CHANGES

The Standard Shop Equipment Co., Philadelphia, has removed from 803 Real Estate Trust Building to 1212 Sedgley Avenue.

The Eureka Fire Brick Works, Mt. Braddock, Pa., which makes a specialty of difficult shapes in fire brick, has opened a Pittsburgh office at 1507 First National Bank Building. E. L. Messler, president of the company and formerly a captain of engineers in France, is in charge of the office.

The Hofmann-Sproul Co., Philadelphia, iron and steel, announces the appointment of the Faison Co., Banner Building, Greensboro, N. C., as southern representative. The Hofmann-Sproul Co. has representatives in Chester, Norristown and Wilkes-Barre, Pa., Meriden, Conn., and Worcester, Mass.

The Cleveland Milling Machine Co., Cleveland, has discontinued its Indianapolis office owing to the death of W. P. Sparks, who represented the company in that city. D. B. Clark, the Chicago manager, will handle the Indianapolis district from the Chicago office.

KENT HARRISON, for several years with the Anniston Steel Co., Anniston, Ala., in charge of its electric furnace operations, resigned, effective Nov. 1, to join the Ashland Iron & Mining Co., Ashland, Ky., as open hearth superintendent. Mr. Harrison was in the open hearth department of the Illinois Steel Co. at South Chicago, for several years, and before going to Anniston, was superintendent of the electric furnace department for the Hess Steel Corporation at Baltimore.

The Chicago Pneumatic Tool Co., Chicago, has removed the Birmingham office from 801 Brown Marx Building to 1925 Fifth Avenue, North. A complete stock and a service station will be maintained.

The Shawinigan Electro-Metals Co. has moved its sales office from the Leader-News Building, Cleveland to 1500 Westminster Building, Chicago. Arrangements are being made for storage of magnesium in New York, Detroit and Chicago to supply those districts.

Horace G. Cooke, Inc., has opened offices at 50 West Forty-second Street, New York to design and market rotary compressors, gas exhausters and pumps for the National Marine Engine Works, Inc. Horace G. Cooke was formerly for 20 years Eastern representative of the Connersville Blower Co.

The Merrill Iron Works, Merrill, Wis., manufacturing gray iron and brass castings, mill and logging supplies, has changed its name to the Merrill Machinery & Supply Co. The management and policy of the company is unchanged, but new capital has been acquired in the reorganization.

The Burgess Battery Co., Madison, Wis., is erecting a concrete and steel factory building of 75,000 sq. ft. to manufacture cells, flash light batteries and cases. The Worden-Allen Co., Chicago is the contractor. It is expected to be completed early in 1920.

The name of the B. F. Briggs Pump Co., LaFayette, Ind., has been changed to Briggs Pump & Supply Co. The concern is manufacturer and jobber in mill pumping and well supplies. It deals in pumps, tanks, tank heaters, belting, packing, pipe fittings, etc.

The Atlas Powder Co., Wilmington, Del. announces the removal of its general offices to 140 North Broad Street, Philadelphia.

The Lyon Metallic Mfg. Co., Aurora, Ill., manufacturer of steel shelving, lockers, boxes, cabinets and general steel equipment, announces the opening of a new district sales office in Philadelphia at 519 Bulletin Building, with R. J. Nyce in charge.

The Charles Dreifus Co., Oliver Building, Pittsburgh, dealers in iron and steel scrap, has opened an office in the Book Building, Detroit, in charge of A. I. Dreifus, who has been connected with the general sales offices of the company in Pittsburgh for some years.

Max Melzer, Philadelphia district manager Erie Iron & Steel Co., announces the removal of his offices to 1002 Land Title Building, Philadelphia, 'phone Locust 4410-6411.

## Trade Possibilities of Dutch East Indies

"Commercial Possibilities of the Dutch East Indies—a Description of Trade Conditions in an Undeveloped Market of Great Size, Large Population, and Immense Resources" is the title of a pamphlet of 24 pages issued by the National Foreign Trade Council, New York, for September. The machinery situation is described as follows: "Until 1914 only small machines of simple construction were manufactured on the islands. Since then it has been found that evaporation plants, concentration plants and other similar factory equipment could be built by the large concerns established at Sourabaya (Java). Progress has also been made toward erecting galvanized iron sheds, factory buildings and other construction work of considerable size. Metal foundries are coming to play an important part in the industrial life of Java."

Among the chief articles of import are mentioned machinery and steam engines valued at about \$10,000,000; also iron, steel and hardware which have increased from \$4,800,000 in 1905 to \$13,600,000 in 1916. Among the simple industries which could be started with profit are blast furnaces, fire clay and fire-brick, cement, shipbuilding and the construction of public utilities of all kinds. Some of the articles suited to their present needs are enumerated as: iron, steel, brass and copper bars and sheets for machine shops; iron and brass, or copper, tubes for boilers, evaporation plants; iron, steel and brass pipes; machines, engines and pneumatic and automatic tools; rails, accessories and rolling stock; tractors; construction iron, galvanized iron for roofs and ceilings.

Additional information may be secured from the Bureau of Foreign and Domestic Commerce, Washington, D. C.; Netherlands Indian Government, 11 South William Street, New York or 17 Battery Place, New York.

## New Kansas City Steel Mill

The Kansas City Bolt & Nut Co., Kansas City, Mo., has commenced the construction of a steel mill. Two 50-ton open hearth furnaces are being installed from which 10 x 10 in. ingots will be cast. Part of these will be rolled down to billets on a 22-in. mill, now in the course of construction, and these will be finished on the company's present 16 and 10 in. mill into bolt and nut stock and merchant and reinforcing bars. The remainder of the tonnage will be finished on the 22-in. mill into larger bars, structural shapes and billets for general sale. Both the open hearth and heating furnaces will be operated on fuel oil. Pig iron will be purchased from Chicago and Birmingham, and scrap and limestone will be secured locally. Just as soon as the two open hearths are in operation the company will proceed with the construction of a third furnace, and the plant is so laid out that fourth and fifth furnaces can be added when conditions warrant it. The first two furnaces are expected to be in operation by April 1, 1920.

## Open Shop Association

More than 400 manufacturers, merchants, contractors, bankers and commercial organizations of Beaumont, Texas, recently formed the "Open Shop Association of Jefferson County." The objects of the organization according to the constitution are: To prevent industrial disturbances; to oppose restriction of output and sympathetic strikes; to secure for employers and employees the right of individual contract; and to prevent interference with persons seeking to earn an honest living. The membership includes individuals, corporations, partnerships and associations employing labor or, whether they employ labor or not, who believe in the principles of the open shop. Dues for non-employers of labor are \$5 a year and for employers of labor an amount not to exceed  $\frac{1}{4}$  of 1 per cent of the monthly payroll. Members receive free legal advice and agree to adopt the open shop at the expiration of any union agreements now in force. Damages to the association ranging from \$500 to \$5000 are provided for members violating provisions of the constitution. The list of members includes the Southern Iron & Metal Works, Boykin Machine & Supply Co., Beaumont Machine Works, Beaumont Iron Works, Gulf

Welding & Machine Co., Gulf Coast Machine & Supply Co., Southern Motor Mfrs. Association.

## Export Trade Opportunities

Arthur M. Loeb & Co., Lima, Peru, have written *THE IRON AGE*, asking to be in touch with American manufacturers of steel, machinery and railroad equipment who desire representation in that country. This firm states that it is not a commission house. It maintains a stock, specializing in steel products, but does not handle cotton goods as do many other such concerns in South America. Among the lines Loeb & Co. are interested in are the following: Steel, tubular products, sheets, railroad equipment, including rails, locomotives and cars, industrial and portable equipment, mining machinery, hoists, pumps, compressors, railroad construction tools and conveying machinery. Full information, including catalogues, prices, etc. is desired with the first letter in order that delays through the mail service may be avoided.

## Engineering Section of Safety Council

CHICAGO, Nov. 12.—The formation of an engineering section of the National Safety Council has been authorized by the Executive Committee of the Council and the section will be organized immediately by a special committee appointed for the purpose.

In announcing this action, Sidney J. Williams, secretary and chief engineer of the National Safety Council, said the decision to form a distinct engineering section was prompted by three things: First, the growing recognition of the importance of the engineering factor in safety work; second, the growing interest in safety work on the part of civil, mechanical, electrical, mining and chemical engineers; third, the growing volume of experience and investigation in the engineering problems involved in safety work.

## New England Foundrymen's Association

H. L. McKinnon, vice-president of the C. O. Bartlett & Snow Co., Cleveland, gave an illustrated descriptive talk on foundry sand handling equipment to the members of the New England Foundrymen's Association at their meeting held at the Exchange Club, Nov. 12.

Following his address, Mr. McKinnon answered many questions put to him by members of the association regarding the cost of maintenance and the efficiency of foundry sand handling equipment in various kinds of work. Mr. McKinnon stated that in one instance depreciation and cost of maintenance, jointly, were figured at 15 per cent on the investment, so the cost in the equipment and installation was eliminated in about eight years. This instance of costs was the only one given.

The question of mixers also was discussed where continual operation is involved. Mr. McKinnon was not prepared to say which type of mixer should be used inasmuch as he believed that every foundryman who contemplated an investment in sand handling machinery will find he has his own particular problems to solve, that these become pure and simple engineering problems and have to be determined according to the needs of each individual foundryman.

The meeting and dinner were largely attended. President Robert E. Newcomb presided. The following applications for membership to the association were favorably acted upon: Framingham Foundries, Inc., Framingham, Mass.; Coppus Engineering & Equipment Co., Worcester, Mass.; Roxbury Iron & Metal Co., Dorchester (Boston), Mass.; Quigley Furnace Specialties Co., Inc., New York.

The Screw Machine Products Corporation, Providence, R. I., has been and is selling 7 per cent cumulative preferred stock, par \$100, to its employees at \$87.50 per share. Payment for the stock is to be made in monthly installments, beginning in November. By presenting the certificates for inspection in October during each of the next five years, the employees will get an extra bonus of \$5 per share.



## BASING POINT CONTROVERSY

Mr. Wickersham Will Represent Lackawanna Steel Co.—Many Answers Filed

WASHINGTON, Nov. 18.—George W. Wickersham, Attorney General of the United States during the administration of President Taft, will represent the Lackawanna Steel Co. in arguing in favor of Pittsburgh in the Pittsburgh basing point controversy before the Federal Trade Commission.

A long list of new answers has been received by the commission. Almost all of them are opposed to the retention of Pittsburgh as an exclusive basing point. Many of them ask that the basing point policy be abolished entirely, while others favor the establishment of new basing points at Chicago and Birmingham. Practically the only new recruits for the Pittsburgh camp came from Indianapolis, where the Indianapolis branch of the American Association of Engineers, W. J. Holliday & Co., and the Indiana Bolster Spring Co. have filed letters favoring Pittsburgh.

The opposition, however, has been increased by new answers from the Joint Committee of Civic Organizations of Duluth and the cities of St. Paul, Minneapolis, Kansas City, Mo., and Omaha, Neb. Letters opposing an exclusive Pittsburgh basing point have also been filed by the following:

Howard Stove Co., Ralston, Neb.; Baker Mfg. Co., Evansville, Wis.; Niles & Scott Co., LaPorte, Ind.; Gehl Bros., West Bend, Wis.; Parsons Co., Newton, Iowa; Goldens Foundry & Machine Co., Columbia, Ga.; Brown, Rogers Co., Winston-Salem, N. C.; Towers & Sullivan Mfg. Co., Rome, Ga.; International Shipbuilding Co., Gulfport, Miss.; Austin Mfg. Co., Chicago; Helena Hardware Co., Helena, Mont.; Puffer-Hubbard Mfg. Co., Minneapolis; Hartman Mfg. Co., Vincennes, Ind.; Utah Associated Industries, Salt Lake City, Utah; Karges Furniture Co., Evansville, Ind.; Woodmanse Mfg. Co., Freeport, Ill.; Eli Bridge Co., Jacksonville, Ill.; Barber-Greene Co., Aurora, Ill.; Bumann Mfg. Co., Litchfield, Ill.; Biereach & Niedermeyer, Milwaukee; Illinois Refrigerator Co., Morrison, Ill.; Cole Mfg. Co., Chicago; Moore Bros. Co., Joliet, Ill.; Summit Stove Works, Morrison, Ill.; Payson Mfg. Co., Chicago; Chamber of Commerce of Moss Point-Pascagoula, Miss.; Salt Lake Iron & Steel Co., Salt Lake City, Utah; Nutting Truck Co., Faribault, Minn.; Stewart-Warner Speedometer Corporation, Chicago; London Mch. Co., Fairfield, Iowa; Harris & Reed Mfg. Co., Chicago; LaCrosse Tractor Co., LaCrosse, Wis.; Evan L. Reed Mfg. Co., Sterling, Ill.; Blount Plow Works, Evansville, Ind.; Champion Potato Machinery Co., Hammond, Ind.; Campbell Heating Co., Des Moines, Iowa; Whiting Foundry Equipment Co., Harvey, Ill.; A. J. Lindermann and Hoverson Co., Milwaukee, Wis.; A. J. Lindermann & Hoverson Co., Milwaukee, Wis.; Clinton Manufacturers' & Shippers' Association, Clinton, Iowa, and Manufacturers' Club of Minneapolis.

The Southern Metal Trades Association in convention at Chattanooga passed resolutions favoring the establishment of a basing point at Birmingham. The New Jersey Zinc Co. has filed a letter urging that the breaking down of the existing basing point in the steel industry, if followed by similar action in other industries, would lead to confusion.

### Ruling as to Demurrage

WASHINGTON, Nov. 18.—The Interstate Commerce Commission has ruled that upon shipments held in storage at one point and later exported from another, the domestic demurrage charges at the first port are legally applicable and not the export demurrage rates at the port of final exportation. This ruling is of importance in these days when reconsignments are so often made necessary by harbor strikes and sudden changes in shipping schedules.

### Cambria Steel Co. Resuming at Johnstown

The Cambria Steel Co., Johnstown, Pa., whose plants have been entirely closed down since the steel strike started on Sept. 22, has been resuming operations in a number of departments in the past week. On Thursday, Nov. 13, two coal mines started up and on Friday, Nov. 14, coke was drawn from ovens which these mines supply. Blast was put on at one blast furnace on Saturday, at a second furnace on Sunday, and two additional furnaces were started on Monday. The number of men at work in the various departments of the steel plant will increase rapidly and it is expected that there will be a considerable operation at steel works and rolling mills by the end of this week. Employment bureaus have been established at convenient points where men may register who desire to return to work.

Prior to the steel strike the Cambria steel Co. made appropriations amounting to \$8,000,000 for large exten-

sions and new construction at Johnstown. However, due to the strike all of its plans were laid aside and have not since been taken up. Now that a start has been made in the operation of the mills it is expected that the company will be in the market for a large amount of new equipment of various kinds.

### Pleads Not Guilty

Henry L. Exstein of New York City, indicted last September with William Nat of New York and John D. Birmingham of South Braintree, Mass., on the charge of conspiracy to defraud the United States in connection with the sale of scrap iron by the New York, New Haven & Hartford Railroad to Joseph Joseph & Bros. Co., was recently arraigned before Judge Morton in the Federal District Court, Boston. He pleaded not guilty to two indictments, both of which charged conspiracy, and was held in \$5,000 bail to await trial. Bail was furnished.

### Will Build Hot Strip Mill Next Year

The Worcester Pressed Steel Co., Worcester, Mass., will not build its hot roll strip mill this season, but will make every preparation for its construction next season. The land is already provided for on a portion of the 24 acres of land adjoining the property at Barbers Crossing, on the Boston & Maine Railroad. A side track will be put in immediately, to serve the mill, and also to serve a steel storage building, the erection of which will begin immediately. The structure will be of steel and concrete, 90 by 150 ft., which with galleries, will give a floor space of 25,000 sq. ft. An electric traveling crane will be installed, for use in unloading steel from the cars to special trucks which will convey the material to the pickling tanks.

### Offer Premiums on Sheets

YOUNGSTOWN, Ohio, Nov. 18.—Books of Mahoning valley sheet makers are still closed, though inquiries continue to pour in. No deliveries under three months are promised. Rollings were delayed in most plants from five to six weeks by the strike and output is still considerably under normal, though operating conditions daily improve. The policy of clearing order books before taking on new business is still in effect. As a consequence buyers have in some cases offered a premium as high as \$10 to \$14 above market prices for black and galvanized sheets. In spite of this no tonnage is being booked.

### Interstate Making Improvements

The Interstate Iron & Steel Co. is constructing material additions to its South Chicago plant. The improvements include a continuous bar mill with 16-in., 10-in. and 12-in. stands, an additional open-hearth furnace, heating furnaces and accessory equipment. The adjoining scrap yard is being completely rearranged and is being equipped with a crane runway and large cranes for handling material. Construction is being pushed in the hope that operation of the mill can be inaugurated in the latter part of next year.

### Will Increase Capacity

J. P. Keene, president Youngstown Boiler & Tank Co., Youngstown, Ohio, announces that the company's plant capacity will be increased threefold by erection of additional buildings. Additional equipment has been contracted for, he states.

### No Change in Wages

There will be no change in wages of sheet and tin mill workers during November and December as the result of the bi-monthly examination Nov. 11 at Youngstown, Ohio, between representatives of the Amalgamated Association of Iron, Steel and Tin Workers and the Western Bar Iron Association. The average price of Nos. 26, 27 and 28 gage black sheets shipped in September and October was \$4.35 per 100 lb., while the average price on shipments on tin plate was \$6.90 per base box. These averages have prevailed since the July examination.

ESTABLISHED 1855

# THE IRON AGE

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## Steel Export Fallacies

The London *Economist* has a Sheffield correspondent who writes in a fluent way and to judge from his statements concerning the United States, without any slavish regard for facts, about the competition Great Britain will have to meet in her export-iron and steel trade. In one article he kills off Germany as a possible competitor in steel exports hereafter. In another he disposes of France. Though conceding that if she exploits Lorraine as Germany did "France might easily export 8,000,000 tons of steel a year, plus £200,000,000 worth of engineering goods" (while the fact is that the French commission of experts estimated only 2,136,000 tons of steel available for export after the war) the Sheffield writer is very certain that France will do little in exporting steel, for these reasons:

France is mainly an agricultural, and secondarily an artistic, nation. French labor, wonderfully efficient in food production and some of the artistic trades, is not at all well adapted to heavy, hot, forge and furnace work. There is no prospect, probability, or possibility of France finding the labor necessary to get such an output of iron, steel and engineering goods as would allow of such an export trade as Germany did before the war. France will never even consider the lavish subsidization of heavy goods at the expense of her agriculture. French iron and steel works are badly situated for export trade. They are mostly 250 miles inland. France has no railroad capable of dealing with a big trade in heavy steel products, even if such trade was desired. And there are no dock or shipping facilities for such business on a great scale. For many years, if not decades, most of the Continental plants will be fully occupied meeting home needs, while there is no remote prospect of France following Germany's policy of subsidizing a great foreign trade.

Passing to what American steel companies might do in competition with Great Britain, the *Economist* writer finds that this country's power to compete has been on the wane; that "for more than 20 years the resources of the United States have been egregiously exaggerated"; that costs have been rising ever since the Steel Corporation was formed; that between 1914 and 1918 the cost of making steel in the United States went up from \$18 to \$32.50 per ton, and will soon be getting near \$40; that iron ore royalties averaged about 15 cents per ton before the Steel Corporation was formed and are now around \$1 per ton; that roughly American iron ore is three times as dear as it was 20 years ago; that owing to the great agricultural prosperity of the country labor for the "hot, heavy work of the furnaces and forges" is very scarce and only with extreme difficulty can the American steel industry be operated at 65 to 70 per cent of capacity; that as the British are gradually regaining their trade connections American steel exports are declining, having already this year gone down from a rate of 6,000,000 tons a year to "little more than a 3,000,000-ton rate," etc.

It would be hard to make so many misleading or

untrue statements in as many lines, and if the above are the grounds on which Great Britain expects exemption from American competition in steel no time should be lost in getting her house in order. If British steel masters' statements before their Coal Commission eight months ago are to be relied upon, or the urgent invitations for some agreement as to export prices that have come to American steel companies from manufacturers in Great Britain, there is very good ground for believing that some forms of American steel can undersell British steel not only in neutral markets but in the British market itself.

The fact is that the exports of American iron and steel were 465,000 tons in August last and in spite of the dock strikes in New York were 363,500 tons in September, making the average for the two months at the rate of nearly 5,000,000 tons a year. Meanwhile Great Britain's iron and steel exports, because of dear coal, dear ore, higher labor costs, strikes and increasingly oppressive demands of labor, have been disappointing. In June they were 194,000 tons, in July 192,000 tons, in August 211,000 tons and in September 191,000 tons—an average of 197,000 tons. Even at low ebb in war time, or in the year 1918, they averaged 135,000 tons a month, and in 1913 they were 421,000 tons a month, or more than twice the average of the last four months that have been reported.

Yet in four brief sentences, after brushing aside all the considerations that have led British steel manufacturers to view the future with alarm, the Sheffield optimist points the way to British supremacy in the export field:

To sum up, German competition as we knew it before the war is dead. France, even with Lorraine, is not likely to be a very serious rival. American competition is little more than a bogey. The world is hungering for steel, and Britain has the very best export facilities.

The *Economist* articles are distinctly a disservice to the British steel trade, in seeking to nullify all that manufacturers there have been urging throughout the past year concerning the throttling of Great Britain as a competitor in the international steel trade by the inordinate demands of labor. The real story, which is quite at variance with this Sheffield writer's theorizing about costs, is being told in market transactions week by week. American steel in large amounts is being sold, not only to countries which produce little or no steel, but to France, Belgium and Great Britain. Moreover, American steel exports are likely to exceed those of Great Britain for many months to come, if the scale of current transactions and inquiries in this country for shipment abroad are any criterion.

The experience of a steel company operating mines in the Central West throws light on the contention of the miners that their wages have been reduced to a mere



pittance as a result of the deliberate curtailment of production by the coal operators to keep up prices. This company, inasmuch as it operates its coal mines solely to supply its own needs, cannot be charged with limiting output. On the contrary it has encouraged production. Yet its miners have worked an average of four days a week at the most. But this reduction in working time by the employees themselves has by no means reduced wages to the low figures which the miners claim are typical of the industry. At a representative mine owned by this company the monthly payroll is \$140,000. Deducting scrip used in payment for the rent of company dwellings and purchases at the company stores, over \$90,000 is paid in cash to employees. The average wage of the 800 employees—from the most highly skilled miner down to the water boy—is \$112 a month. This wage, be it noted, represents what the employee pockets after a considerable share of his living expense has been paid.

### Better Steel Rails

A well known authority made two striking statements in an important paper on "The Manufacture of Steel Rails," read at the fall meeting of the American Institute of Mining and Metallurgical Engineers. Ways and means of securing better rails have been discussed from many angles, but the two recommendations or prophecies made by Robert W. Hunt, while they came as a surprise to some, found a response in the minds of not a few metallurgists.

Starting with the statement that to secure sound rails it is of supreme importance to have sound ingots, Capt. Hunt said that though he was not yet prepared to incorporate a provision for hot-top ingots in rail specifications, the time is near when it will be entirely practical to do so. While this may involve a somewhat greater first cost, there will be a partial offset in the saving in scrap. It was found necessary during the war to make this outlay for hot-top ingots in order to make proper steel to destroy human life. Is not this outlay all the more justified in the case of rails, when human safety so much depends on sound rails?

The second recommendation or prophecy of Capt. Hunt had to do with the use of pre-melted manganese alloys in steel making. Referring to the fact that the threatened scarcity of manganese during the war led to the pre-melting of ferromanganese or spiegeleisen, which resulted in marked economy, he considered that from a metallurgical point of view the results had been very satisfactory and urged that makers of rail specifications insist on this practice.

Hot tops for ingots are as necessary to really sound steel as are adequate sink heads to sound steel castings. It is surprising that the hot-top ingot has not been more generally the rule in American steel practice. In most new plants, particularly in electric steel ingot practice, the method is in use. As to pre-melting manganese iron alloys, both British and German experience during the war demonstrated that by melting ferromanganese in electric furnaces there is a saving of about 30 per cent manganese, besides other decided advantages.

Another interesting development in the steel rail problem is the serious consideration being given to the heat treatment of rails by electricity. Experiments are said to have given some striking results, so much so that the electrical heat treatment of steel rails on a commercial scale is now being developed by one progressive American company.

The realization of the proposals of Capt. Hunt should be possible not only for steel rail, but also for other products. There is large room for improvement in rails despite the often marked differences in the ideas of makers and users. Quality steel in quantity can be measurably achieved by giving proper consideration to these metallurgical factors.

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## STOCK MARKET DECLINE

### Public Speculative Account Evidently Was Over-Extended

The stock market recently suffered the most drastic setback experienced since the famous 1916 crash, which carried Baldwin Locomotive down 100 points or so and other stocks, then generally termed "war brides," as much or more. Various reasons for the recent decline in values have been advanced, most of them dealing with the foreign exchange situation, or a generally over-extended public speculative account, or the scarcity of money, the last theory being based on the fact that loans or call money were made at as much as 30 per cent.

From the best available sources it appears that there is practically as much actual money in the country today as there was six months ago or longer. There must have been a reason, therefore, for 30 per cent call money. Certain it is that public speculation in stocks this year has been on a tremendous scale. The action of the market during the recent drastic decline and since then strongly suggests that this public speculative account was very much inflated. It has been so for several months.

On two previous occasions this year, the banks, with the sanction of the Federal Reserve Bank, tried to check public speculation in and inflation of securities through the medium of materially higher money rates. These two efforts were only partly successful because speculators had sufficient Liberty bonds and other collateral to protect their accounts. The recent drop in the market found them less able to protect themselves.

Since the recent drastic decline the market has been decidedly irregular, most of the time being inclined toward a lower level. The automobile stocks, as a group, have been the hardest hit. The steel stocks, because of the comparative stability of United States Steel, have fared better than might have been expected. The action of United States Steel possibly is based on the fact that the common shares are growing more and more an investment each month. The book value of the shares is more than enough to justify their present price.

### Inland Buys Large Tract at Gary

The Inland Steel Co. has purchased 540 acres adjoining 100 acres which it previously acquired near Gary, Ind. The smaller tract is on the lake shore and can be greatly enlarged by filling in the shallow waters of Lake Michigan. The company asserts that it has formulated no definite plans for the improvement of the property, but that the land will be held in reserve for possible future expansion.

## Pittsburgh

### Pig Iron

The following quotations are all per gross ton at Valley furnaces, freight rate for delivery in the Cleveland and Pittsburgh districts being \$1.40 per ton.

Basic .....	\$30.00
Bessemer .....	31.50
Gray forge .....	31.00
No. 2 foundry .....	32.00
No. 3 foundry .....	31.50
Malleable .....	32.00

### Ferroalloys

We quote 78 to 82 per cent domestic ferromanganese \$110 delivered, and English at \$102 to \$105, with a reduction of \$1.50 to \$1.75 per unit for lower percentages. We quote resale 50 per cent ferrosilicon at \$80 to \$82 and 18 to 22 per cent, spiegelisen at \$33 to \$35, delivered. Prices on Bessemer ferrosilicon are: 9 per cent, \$52.75; 10 per cent, \$54.75; 11 per cent, \$58.05; 12 per cent, \$61.35. We quote 6 per cent silvery iron, \$41.75; 7 per cent, \$43.25; 8 per cent, \$45.25; 9 per cent, \$47.25, and 10 per cent, \$49.75. An advance of \$3.30 per gross ton is charged for each 1 per cent silicon for 11 per cent and over on Bessemer ferrosilicon, and an advance of \$2.50 per gross ton is charged for each 1 per cent silicon for 11 per cent and over on silvery iron. All the above prices are f.o.b. maker's furnace, Jackson or New Straitsville, Ohio, which have a uniform freight rate of \$2.90 per gross ton for delivery in the Pittsburgh district.

### Billets and Sheet Bars

We quote 4 x 4 in. soft Bessemer and open-hearth billets at \$43 to \$45; 2 x 2 in. billets at \$45 to \$47; slabs, \$47 to \$48; sheet bars, \$45 to \$47, and forging billets, \$58 to \$60 base, all f.o.b. at mill Pittsburgh or Youngstown.

### Iron and Steel Bars

We quote steel bars rolled from billets at 2.75c. and from old steel rails, 2.45c. Pittsburgh mills rolling iron bars quote at 3.10c. Pittsburgh, plus full freight rate to point of delivery.

### Structural Material

Beams and channels up to 15-in., 2.45c., Pittsburgh, large lots.

### Plates

Sheared tank plates, 1/4-in. and heavier, at 2.65c. to 2.75c. Pittsburgh, depending on order and delivery.

### Spikes

We quote standard spikes, 9/16 x 4 1/4 in., at \$3.35 base per 100 lb. in carload lots of 200 kegs of 200 lb. each, and small spikes, 5/8 in., 7/16 in. and smaller, at \$3.85 to \$4 per 100 lb. in carload lots of 200 kegs of 200 lb. each, plus usual extras. Boat and barge spikes, \$3.85 to \$4 per 100 lb. in carload lots of 200 kegs of 200 lb. each, all f.o.b. Pittsburgh. For less than carloads, 1c. per lb. higher is asked.

### Cold Rolled Strip Steel

We quote cold-rolled steel at \$5.65 base per 100 lb. f.o.b. Pittsburgh, for 1 1/2-in. and wider, 0.100 in. and thicker hard tempered, in coils 50 carbon and under. Boxing charge, 25c. per 100 lb.

### Old Material

Heavy steel, melting, Steubenville, Foliashbee, Brackenridge, Monessen, Midland and Pittsburgh, delivered .....	\$22.50 to \$23.00
No. 1 cast for steel plants .....	27.00 to 28.00
Rerolling rails, Newark and Cambridge, Ohio; Cumberland, Md.; Franklin, Pa., and Pittsburgh .....	29.00 to 30.00
Compressed steel .....	18.00 to 19.00
Bundled sheet, sides and ends, f.o.b. consumers' mills, Pittsburgh district .....	17.00 to 18.00
Bundled steel stamping .....	15.00 to 15.50
No. 1 busheling .....	22.00 to 23.00
Railroad grate bars .....	20.50 to 21.00
Low phosphorus melting stock (bloom and billet ends, heavy plates) 1/4 in. and heavier .....	26.00 to 26.50
Railroad malleable .....	22.00 to 23.00
Iron car axles .....	31.00 to 32.00
Locomotive axles, steel .....	31.00 to 32.00
Steel car axles .....	28.00 to 29.00
Railroad malleable .....	22.00 to 23.00
Cast iron wheels .....	25.50 to 26.00
Rolled steel wheels .....	24.00 to 25.00
Machine shop turnings .....	13.00 to 14.00
Sheet bar, crop ends (at origin) .....	26.00 to 27.00
Heavy breakable cast .....	21.50 to 21.75
Cast iron borings .....	17.00 to 17.50
No. 1 railroad wrought .....	23.00 to 24.00

## Chicago

### Pig Iron

The following quotations are for iron delivered at consumer's yards except those for Northern foundry, malleable and steel-making irons, including low phosphorus, which are f.o.b. furnaces and do not include a switching charge averaging 50c. per ton.

Lake Superior charcoal, average silicon, 1.50, f.o.b. furnace, average freight to Chicago, \$2.50 (other grades subject to usual differentials) .....	\$35.00
Northern coke foundry, No. 1 silicon, 2.25 to 2.75 .....	34.25
Northern coke foundry, No. 2 silicon, 1.75 to 2.25 .....	32.00
Northern high phosphorus foundry .....	32.00
Southern coke, No. 1 foundry and No. 1 soft, silicon, 2.75 to 3.25 .....	38.55
Southern coke, No. 2 foundry, silicon, 2.25 to 2.75 .....	37.25
Southern foundry, silicon, 1.75 to 2.25 .....	36.00
Malleable, not over 2.25 silicon .....	32.50
Basic .....	31.00
Low phosphorus (copper free) .....	40.00
Silvery, 7 per cent .....	47.05

### Plates

The mill quotation is 2.65c. Pittsburgh, the freight to Chicago being 27c. per 100 lb. Jobbers quote 3.67c. for plates out of stock.

### Structural Material

The mill quotation is 2.45c. Pittsburgh, which takes a freight rate of 27c. per 100 lb. for Chicago delivery. Jobbers quote \$3.47 for materials out of warehouse.

### Ferroalloys

We quote 80 per cent ferromanganese at \$110 delivered; 50 per cent ferrosilicon at \$85, delivered; spiegelisen, 18 to 22 per cent, \$35 furnace.

### Iron and Steel Bars

Mill prices are: Mild steel bars, 2.35c. Pittsburgh, taking a freight rate of 27c. per 100 lb.; common bar iron, 2.75c. to 2.75c. Chicago; rail carbon, 2.75c. mill. Jobbers quote 3.37c. for steel bars out of warehouse.

### Cast Iron Pipe

We quote per net ton f.o.b. Chicago, ex-war tax, as follows: Water pipe, 4-in., \$62.80; 6-in. and above, \$59.80, class A and gas pipe, \$2 extra.

### Bolts and Nuts

Jobbers quote: Structural rivets, 4.72c.; boiler rivets, 4.82c.; machine bolts up to 3/4 x 4, in., 35 and 5 per cent off, larger sizes, 25 and 5 off; carriage bolts up to 3/4 x 6 in., 30 and 5 off; larger sizes, 20 and 10 off; hot pressed nuts, square tapped and hexagon tapped, \$1.45 off; coach or lag screws, gimlet points, square heads, 40 and 5 per cent off. Quantity extras for nuts are canceled.

### Sheets

Mill quotations are 4.35c. for No. 28 black, 3.55c. for No. 10 blue annealed, and 5.70c. for No. 28 galvanized.

Jobbers quote Chicago delivery out of stock: No. 10 blue annealed, 4.57c.; No. 28 black, 5.62c., and No. 28 galvanized, 6.97c.

### Rails and Track Supplies

Standard railroad spikes, 3.35c. Pittsburgh. Track bolts with square nuts, 4.35c. Pittsburgh. Steel tie plates and iron angle bars, 2.75c. Pittsburgh and Chicago; tie plates, iron, 2.90c. f.o.b. makers' mills. Light rails, 2.45c. f.o.b. makers' mills, with usual extras.

### Old Material

We quote delivery in buyer's yards, Chicago and vicinity, all freight and transfer charges paid, as follows:

Per Gross Ton	
Iron rails .....	\$27.00 to \$28.00
Relaying rails .....	40.00 to 50.00
Car wheels .....	28.00 to 29.00
Steel rail, rerolling .....	31.00 to 32.00
Steel rails less than 3 ft. ....	25.00 to 25.50
Heavy melting steel .....	20.50 to 21.50
Frogs, switches and guards, cut apart .....	20.50 to 21.50
Shoveling steel .....	20.50 to 21.00
Per Net Ton	
Iron angles and splice bars .....	\$26.00 to \$27.00
Steel angle bars .....	21.00 to 21.50
Iron arch bars and transoms .....	27.50 to 28.50
Iron car axles .....	32.00 to 33.00
Steel car axles .....	29.50 to 30.00
No. 1 busheling .....	19.00 to 19.50
No. 2 busheling .....	14.00 to 14.50
Cut forge .....	20.50 to 21.00
Pipes and flues .....	17.00 to 17.50
No. 1 railroad wrought .....	23.00 to 24.00
No. 2 railroad wrought .....	20.50 to 21.00
Steel knuckles and couplers .....	21.00 to 21.50
Coil springs .....	22.00 to 22.50
No. 1 cast .....	28.50 to 29.00
Boiler punchings .....	23.50 to 24.00
Locomotive tires, smooth .....	20.50 to 21.00
Machine shop turnings .....	10.50 to 11.00

## Philadelphia

### Pig Iron

The following quotations are for iron delivered in consumers' yards in Philadelphia or vicinity, except those for low phosphorus iron, which are f.o.b. furnace:

Eastern Penna., No. 2X, 2.25 to 2.75 sil .....	\$36.10 to \$37.10
Eastern Penna., No. 2, plain, 1.75 to 2.25 sil .....	35.10 to 36.10
Virginia No. 2 X, 2.25 to 2.75 sil .....	37.35
Virginia No. 2, plain, 1.75 to 2.25 sil .....	36.10
Basic, delivered Eastern Penna. ....	31.25 to 34.30
Gray forge .....	31.50
Standard low phosphorus (f.o.b. furnace) .....	40.00
Malleable .....	36.00 to 37.00
Copper bearing low phosphorus (f.o.b. furnace) .....	35.00

### Old Material

No. 1 heavy melting steel .....	\$20.50 to \$21.50
Steel rails, rerolling .....	28.00 to 30.00
No. 1 low phosphorus, heavy, 0.04 and under .....	25.00 to 26.00
Carwheels .....	28.00 to 30.00
No. 1 railroad wrought .....	28.00 to 29.00
No. 1 yard wrought .....	22.50 to 23.50
No. 1 forge fire .....	16.50 to 17.50
Bundled skeleton .....	17.00 to 18.00
No. 1 busheling .....	16.50 to 17.50
No. 2 busheling .....	14.00 to 15.00
Turnings (short shoveling grade for blast furnace use) .....	17.00 to 18.00
Mixed borings and turnings (for blast furnace use) .....	15.50 to 16.00
Machine-shop turnings (for rolling mill and steel works use) .....	17.00 to 18.00
Heavy axle turnings (or equivalent) .....	18.00 to 18.50
Cast borings (clean) .....	20.00 to 21.00
No. 1 cast .....	29.00 to 30.00
Railroad grate bars .....	22.00 to 23.00
Stove plate .....	21.00 to 22.00
Railroad malleable .....	21.00 to 22.00
Wrought iron and soft steel pipes and tubes (new specifications) .....	20.00 to 21.00
Ungraded pipe .....	16.00 to 17.00

## Birmingham

### Pig Iron

Foundry, silicon 1.75 to 2.25 .....	\$31.00
Basic .....	30.00

### Old Material

Steel rails .....	\$20.00 to \$21.00
No. 1 heavy steel .....	19.00 to 20.00
Cast iron borings .....	14.00 to 15.00
Machine-shop turnings .....	14.00 to 15.00
Stove plate .....	22.00 to 23.00
No. 1 cast .....	24.00 to 25.00
Carwheels .....	24.00 to 25.00
Tramcar wheels .....	23.00 to 24.00
Steel axles .....	26.00 to 27.00
No. 1 wrought .....	21.00 to 22.00



**Buffalo****Pig Iron**

No. 1 foundry, 2.75 to 3.25 silicon.....	\$37.00
No. 2 X, 2.25 to 2.75 silicon.....	35.25
No. 2 plain foundry, 1.75 to 2.25 silicon.....	32.25 to 34.00
Malleable, silicon not over 2.25.....	35.25
Basic.....	32.00
Lake Superior charcoal, regular grades, f.o.b. Buffalo.....	38.40

**Old Material**

Heavy melting steel, regular grades.....	\$20.00 to \$21.00
Low phosphorus, 0.04 and under.....	24.50 to 25.00
No. 1 railroad wrought.....	24.00 to 24.50
No. 1 machinery cast.....	27.00 to 27.50
Iron axles.....	33.00 to 34.00
Steel axles.....	33.00 to 34.00
Carwheels.....	26.50 to 27.50
Railroad malleable.....	22.50 to 23.50
Machine-shop turnings.....	13.50 to 14.00
Heavy axle turnings.....	17.50 to 18.50
Clean cast borings.....	16.50 to 17.00
Iron rails.....	25.00 to 26.00
Locomotive grate bars.....	21.00 to 21.50
Stove plate.....	23.00 to 23.50
Wrought pipe.....	18.50 to 19.00
No. 1 busheling.....	17.50 to 18.50
Bundled sheet stamping.....	15.50 to 16.00

**New York****Pig Iron**

No. 1 foundry, silicon 2.75 to 3.25.....	\$37.80
No. 2 X, silicon 2.25 to 2.75.....	36.80
No. 2 plain, silicon 1.75 to 2.25.....	35.80
No. 2 X, Virginia silicon 2.25 to 2.75.....	37.65 to 38.65

**Finished Iron and Steel**

We quote as follows for mill shipments: Bar iron, refined grade, 3.27c.; soft steel bars, 3.02c.; shapes, 2.72c.; plates, 2.92c.; all New York.

**Old Material**

Heavy melting steel.....	\$16.50 to \$17.00
Re-rolling rails.....	23.00 to 24.00
Relaying rails, nominal.....	44.00 to 45.00
Steel car axles.....	25.00 to 26.00
Iron car axles.....	34.00 to 35.00
No. 1 railroad wrought.....	25.50 to 26.00
Wrought iron track.....	18.00 to 19.00
Forge fire.....	12.50 to 13.00
No. 1 yard wrought, long.....	20.00 to 20.50
Light iron.....	6.00 to 7.00
Cast borings (clean).....	16.50 to 17.00
Machine-shop turnings.....	13.00 to 13.50
Mixed borings and turnings.....	12.00 to 12.50
Iron and steel pipe (1 in. min. diam., not under 2 ft. long).....	16.00 to 16.50
Stove plate.....	17.50 to 18.00
Locomotive grate bars.....	20.00 to 20.50
Malleable cast (railroad).....	17.50 to 18.00
No. 1 machinery cast.....	\$28.00 to \$29.00
Prices which dealers in New York and Brooklyn are quoting to local foundries, per gross ton:	
No. 1 machinery cast.....	\$28.00 to \$29.00
No. 1 heavy cast (columns, building materials, etc.), cupola size.....	26.00 to 27.00
No. 1 heavy cast, not cupola size.....	19.00 to 20.00
No. 2 cast radiators, cast boilers, etc.).....	18.50 to 19.00

**Cleveland****Iron Ore**

Old range Bessemer, \$6.45; old range non-Bessemer, \$5.70; Mesaba Bessemer, \$6.20; Mesaba non-Bessemer, \$5.55.

**Pig Iron**

Bessemer.....	\$30.90
Basic.....	30.40
Northern No. 2 foundry, silicon, 1.75 to 2.25.....	32.40
Southern foundry, silicon, 2.25 to 2.75.....	36.20
Gray forge.....	31.40
Ohio silvery, silicon, 8 per cent.....	45.65
Standard low phos., Valley furnace.....	\$38.00 to 40.00

**Finished Iron and Steel**

Steel bars, 3.27c.; plates, 3.57c.; structural shapes, 3.37c.; bands and hoops, 3.97c.; No. 10 blue annealed sheets, 4.27c.; No. 28 black sheets, 5.27c.; No. 28 galvanized sheets, 6.62c.

**Old Material**

Heavy melting steel.....	\$20.75 to \$21.25
Steel rails, under 3 ft.....	23.00 to 24.00
Steel rails, re-rolling.....	28.50 to 29.00
Iron rails.....	29.00 to 30.00
Iron car axles.....	35.00 to 36.00
Steel car axles.....	33.00 to 34.00
Low phosphorus melting scrap.....	21.75 to 22.25
Cast borings.....	15.75 to 16.00
Iron and steel turnings and drillings.....	12.75 to 13.00
Short turnings (for blast furnaces).....	13.00 to 13.50
Compressed steel.....	16.75 to 17.25
No. 1 railroad wrought.....	22.00 to 23.00
Railroad malleable.....	19.00 to 20.00
Railroad malleable.....	22.75 to 23.50
Steel axle turnings.....	17.00 to 17.50
Light bundled sheet scrap.....	14.50 to 15.00
No. 1 cast.....	27.00 to 28.00
No. 1 busheling.....	19.50 to 20.50
Drop forge flashings, 10 in. and under.....	18.50 to 19.50
Drop forge flashings, over 10 in.....	16.50 to 17.00
Railroad grate bars.....	22.50 to 23.50
Stove plate.....	22.50 to 23.50

**Cincinnati****Pig Iron**

Based on freight rates of \$3.60 from Birmingham and \$1.50 from Ironton, we quote f.o.b. Cincinnati:	
Southern coke, silicon 1.75 to 2.25 (base price).....	\$34.60
Southern coke, silicon 2.25 to 2.75 (No. 2 soft).....	35.00
Ohio silvery, 8 per cent silicon.....	42.05
Southern Ohio coke, silicon 1.75 to 2.25 (No. 2).....	35.55
Basic Northern.....	33.55 to 34.55
Standard Southern carwheel.....	48.60
Malleable.....	35.05 to 37.05

**Old Material****Per Gross Ton**

Bundled sheet.....	\$13.00 to 13.50
Old iron rails.....	23.50 to 24.00
Relaying rails, 50 lb. and up.....	41.00 to 42.00
Re-rolling steel rails.....	21.50 to 22.00
Heavy melting steel.....	16.00 to 17.00
Steel rails for melting.....	17.00 to 18.00
Old carwheels.....	19.00 to 19.50
No. 1 railroad wrought.....	18.50 to 19.00

**Per Net Ton**

Cast borings.....	\$8.50 to \$9.00
Steel turnings.....	8.00 to 8.25
Railroad cast.....	21.00 to 21.50
No. 1 machinery.....	23.00 to 23.50
Burnt scrap.....	14.00 to 15.00
Iron axles.....	25.00 to 25.50
Locomotive tires (smooth inside).....	19.00 to 19.50
Pipes and flues.....	14.50 to 15.00
Malleable cast.....	16.50 to 17.00
Railroad tank and sheet.....	13.00 to 13.50

**Boston****Pig Iron**

Eastern Pa., No. 2 X silicon 2.25 to 2.75.....	\$37.90 to \$38.15
Eastern Pa., No. 2 plain silicon 1.75 to 2.25.....	36.90 to 37.15
Buffalo No. 2 X silicon 2.25 to 2.75.....	36.90 to 37.90
Buffalo No. 2 plain silicon 1.75 to 2.25.....	35.90 to 36.90
Virginia No. 2 X silicon 2.25 to 2.75.....	38.95
Virginia No. 2 plain silicon 1.75 to 2.25.....	37.70
Alabama No. 2 plain silicon 1.75 to 2.25.....	38.00 to 39.00

**Old Material**

No. 1 heavy melting steel.....	\$16.00 to \$16.50
No. 1 railroad wrought.....	23.00 to 23.50
No. 1 yard wrought.....	18.00 to 19.50
Wrought pipe (1 in. in diameter, over 2 ft. long).....	14.50 to 15.00
Machine-shop turnings.....	12.75 to 13.25
Cast iron borings.....	15.50 to 16.00
Heavy axle turnings.....	13.50 to 14.00
Blast furnace borings and turnings.....	10.50 to 11.00
Forge scrap.....	12.00 to 12.50
Bundled skeleton.....	12.00 to 12.50
Steel car axles.....	22.00 to 23.00
Carwheels.....	26.00 to 27.00
Machinery cast.....	27.00 to 28.00
No. 2 cast.....	23.00 to 24.00
Stove plate.....	19.50 to 20.00
Railroad malleable.....	17.50 to 18.00
Re-rolling rails.....	24.00 to 24.50

**Tool Steel**

Jobbers quote: Ordinary tool steel, 16c. per lb. base; extra, 19c. base; special, 24c. base; double special, 66c. base; non-changeable, 36c. base; high speed steel, \$1.50 base. Mill shipments are quoted at 1c. per lb. less.

**Warehouse Prices**

Jobbers quote: Steel bars, cold rolled rounds, \$5 per 100 lb. base; squares, hexagons, flats, \$5.50 base; soft steel, flats, rounds, squares, \$3.55 to \$3.65 base; structural steel, \$3.55 to \$3.65; tire steel, \$4.25 to \$4.50; spring steel, openhearth, \$8; special, \$12; toe calk steel, \$5.50; steel hoops, \$5 to \$5.25; steel bands, \$4.75 to \$4.85; best iron, flats, rounds and squares, \$5.50 base; refined iron, \$3.65 to \$3.75; No. 10 blue annealed sheets, \$4.85; No. 28 black sheets, \$6; No. 28 galvanized sheets, \$7.25; plates, \$3.70.

**St. Louis****Old Material****Per Gross Ton**

Old iron rails.....	\$27.50 to \$28.00
Old steel rails, re-rolling.....	31.00 to 31.50
Old steel rails, less than 3 ft.....	25.00 to 25.50
Relaying rails, standard sections, subject to inspection.....	38.00 to 45.00
Old carwheels.....	26.00 to 26.50
No. 1 railroad heavy melting steel.....	21.50 to 22.00
Heavy shoveling steel.....	19.50 to 20.00
Ordinary shoveling steel.....	19.00 to 19.50
Frogs, switches and guards, cut apart.....	21.50 to 22.00
Ordinary bundled sheets.....	13.00 to 13.50
Heavy axle and tire turnings.....	15.50 to 16.00

**Per Net Ton**

Iron angle bars.....	\$24.00 to \$24.50
Steel angle bars.....	20.50 to 21.00
Iron car axles.....	32.50 to 33.00
Steel car axles.....	32.00 to 32.50
Wrought arch bars and transoms.....	27.00 to 27.50
No. 1 railroad wrought.....	23.00 to 23.50
No. 2 railroad wrought.....	22.00 to 22.50
Railroad springs.....	21.00 to 21.50
Steel couplers and knuckles.....	21.00 to 21.50
Locomotive tires, 42 in. and over, smooth inside.....	21.00 to 21.50
No. 1 dealers' forge.....	20.50 to 21.00
Cast iron borings.....	12.50 to 13.00
No. 1 busheling.....	20.50 to 21.00
No. 1 boiler, cut to sheets and rings.....	17.00 to 17.50
No. 1 railroad cast.....	27.50 to 28.00
Stove plate and light cast.....	24.50 to 25.00
Railroad malleable.....	21.50 to 22.00
Agricultural malleable.....	20.50 to 21.00
Pipes and flues.....	18.50 to 19.00
Heavy railroad sheet and tank.....	17.00 to 17.50
Machine-shop turnings.....	12.50 to 13.00
Country mixed.....	17.00 to 17.50
Uncut railroad mixed.....	18.50 to 19.00
Horseshoes.....	22.00 to 22.50

**Will Have Open Shop**

In the settlement of the strike at the Standard Steel Car Co. plant, Hammond, Ind., which began July 1, the company retains the open shop plan, refused to take back three of the leading strikers, gives the laborers 7 per cent increase in wages and discards the shop representation plan, the several crafts to deal with the management directly, in place of with a general committee. The strike was by 1500 car works and affected 3500 other employees.

# Machinery Markets and News of the Works

## New York

New York, Nov. 18.

In addition to buying a large amount of equipment the past week, the General Electric Co., Schenectady, N. Y., has issued a new list asking for quotations on the following machines:

- One 72 in. horizontal slab milling machine.
- One 21 in. turret lathe, equivalent of Gisholt.
- One 4 in. radial drill.
- One 16 in. engine lathe.
- One 20 in. engine lathe.
- One horizontal boring mill.
- One 16 in. horizontal shaper.
- Four 24 in. horizontal shapers.
- Three engine lathes to swing 22 in. over carriage and to be 5 ft. between centers.

Three 3 ft. radial drills.  
Two 42 in. vertical turret lathes, equivalent of Bullard.  
One 24 in. upright drill.  
Three 42 in. vertical turret lathes, equivalent of Bullard.  
Among the purchases of the General Electric Co. last week were about 20 milling machines. The machines purchased were those recently acquired for on two lists which aggregated about 100 tools.  
C. E. Johannsen, Inc., formerly the Swedish Gage Co., is now located in its plant at Poughkeepsie, N. Y., and is preparing a list of machine-tool requirements, which will be fairly large. The list will probably be out within a week or so.

The Worthington Pump & Machinery Corporation, New York, has inquiries out for 20 to 30 tools for its various plants. Another small list comes from the American Locomotive Co. The American Car & Foundry Co. has received quotations on 40 or 50 machines, including about 30 plate-working machines, but at this writing has not placed orders. The National Scale Co., Chicopee Falls, Mass., has acquired for two boring mills and a few other tools, and the Lamb Knitting Machine Co., also at Chicopee Falls, wants 10 or 20 tools, including lathes, gear cutters, and milling and grinding machines. The E. W. Bliss Co., Brooklyn, which a few weeks ago placed orders for large machines, has been buying small and medium-sized machines the past week to round out its new shop requirements.

The Emergency Fleet Corporation has announced that a settlement has been reached with the Atlantic Corporation, Portsmouth, N. H. The Fleet Corporation will pay all claims for equipment sold to the shipbuilding company, these claims aggregating about \$500,000, and the shipyard will proceed on a new contract. The yard was constructed during the war, but did not turn out any ships owing to a controversy with the Government over the terms of the contract.

Inquiry for cranes is slightly better. The Bethlehem Steel Co. is in the market for 11 cranes for its works at Lebanon, Pa. The company wants seven 7½ ton cranes; two 5-ton, one 15-ton and one 20-ton. The Sun Shipbuilding Co., Chester, Pa., contemplates adding two new shipways, for which five cranes will be required. Four of these are to be of 10-ton capacity and 112 ft. span, and the fifth is to be 10-ton of smaller span. The Concrete Steel Co. has placed an order with the Whiting Foundry Equipment Co. for two 10-ton special-type cranes.

The American Machine & Foundry Co., Second Avenue and Fifty-sixth Street, Brooklyn, has awarded a contract to the H. D. Best Co., 949 Broadway, New York, for a five-story plant addition, 100 x 192 ft., with extension, 30 x 40 ft., to cost about \$300,000 with equipment.

M. R. Shafer & Co., 10 East Forty-third Street, New York, iron and steel products, have increased their capital stock from \$20,000 to \$100,000.

The Coyne & Delany Co., 832 Kent Avenue, Brooklyn, manufacturer of tanks and other plumbers' goods, will build a new plant at Flushing and Mount Oliver avenues, Maspeth, Long Island, to cost about \$70,000.

The Anti-Theft Permutation Auto Lock Co., New York, has been incorporated with a capital of \$100,000 by F. C. Eckelman, L. D. Adler and J. F. Sperber, 238 East Eighty-second Street, to manufacture special locking devices.

Property of the American Metal Co., 61 Broadway, New York, will be sold by Francis P. Garvan, Allen P. Property Custodian, on Nov. 26.

The Key Bolt Appliance Co., White Building, Buffalo, N. Y., has had plans prepared for a one-story plant, 40 x 100 ft., at Orchard Park, N. J.

The New Jersey Bolt & Forging Co., Jersey City, N. J., has been incorporated with a capital stock of \$25,000 by D. D. T. Story, 241 Seventeenth Street, James F. McCormack and Frederick H. Otto.

The Button Machinery Co., 1023 Clinton Street, Hoboken, N. J., has filed plans for its proposed three-story reinforced-concrete plant at 401-15 Eleventh Street, to cost about \$100,000, a boiler plant and other construction to cost \$70,000.

The Machinery & Equipment Co., Newark, N. J., has been incorporated with a capital stock of \$100,000 by Samuel M. Hollander, 790 Broad Street, Joseph Abraham and Irving Hirsch, to manufacture machinery, parts, etc.

The Kew Mfg. Corporation, New York, has been incorporated with a capital stock of \$20,000 by E. H. Curen, R. G. Clark and C. M. Hayes, 29 Broadway, to manufacture mechanical devices.

The National Seal Co., New York, has been incorporated with an active capital of \$1,000,000 by G. D. Cross, W. A. Shepard and J. H. Taylor, 111 Broadway, to manufacture can stoppers and metal sealing devices.

The Reliance Ball Bearing Door Hanger Co., 262 Starr Street, Brooklyn, will make alterations in its three-story plant to cost about \$10,000.

Foils-Royce of America, Inc., 15 Broad Street, New York, has arranged for a preferred stock issue of \$3,500,000, to be used in part for the construction of its proposed plant on a site selected at Springfield, Mass. The works will be equipped for an initial annual capacity of about 380 high-grade automobiles. The company is affiliated with Rolls-Royce, Ltd., England, and it is planned to have the present assistant works manager of the parent company act as works manager for the New England plant.

The McCordy Tool & Die Co., Fulton, N. Y., will build a two-story addition to cost about \$10,000.

The Holdsit Mfg. Corporation, Hudson Falls, N. Y., has filed notice of change of name to the Union Chain & Tire Corporation.

The General Electric Co., Schenectady, N. Y., will build a one-story brass foundry, 100 x 100 ft., as an extension to building No. 89, to cost about \$30,000.

The Fulton County Machine & Supply Co., Gloversville, N. Y., has been incorporated with a capital stock of \$150,000 by W. S. Decker, E. H. Van Valkenburgh and H. A. Steele.

The Alloy Metal Wire Co., 146 West Ninety-ninth Street, New York, has increased its capital stock from \$30,000 to \$100,000.

The Metropolitan Engineering Co., 1250 Atlantic Avenue, Brooklyn, manufacturer of protective devices, etc., will build a two-story plant addition, 100 x 148 ft.

The Albin Tool Corporation, New York, has been incorporated with a capital stock of \$150,000 by F. R. Walker, J. W. Albin and C. D. Rose, 336 Sixth Avenue, Brooklyn, to manufacture tools and machine parts.

The New York Municipal Railway Corporation, 85 Clinton Street, Brooklyn, will build a two-story and basement shop addition at its mechanical and power plant on Tirty-sixth Street.

The Raymond Engineering Corporation, manufacturer of typewriters, phonograph motors and power tire pumps, with offices at 309 Lafayette Street, New York, has purchased 13 acres at Farmingdale, Long Island, and is starting work on the first two units of a plant, to be followed by later units next summer, at a total cost of \$500,000. The company has just closed contracts amounting to \$2,500,000.

The Belleville Wire Cloth Co., 705 Washington Avenue, Belleville, N. J., is gradually increasing its manufacturing facilities by the addition of wire-working looms. W. E. H. Thaller is president; T. W. Crowley, for 35 years in the wire business, is treasurer; and E. E. Livingston, town commissioner of Belleville, is secretary.

## Chicago

CHICAGO, Nov. 17.

Purchases by large buyers continue to keep up the aggregate volume of business, but there seems to be a decline in the small sales which were so numerous during the summer and early fall. The Simmons Co., bedstead manufacturer, Kenosha, Wis., has bought 12 shapers, 8 heavy geared upright drilling machines and 6 sensitive drills, and is expected to spend over \$100,000 before it completes its purchases. The Chicago & Northwestern Railroad has closed for a fair-sized list, issued several weeks ago. The Nash Motors Co. continues to buy tools for its Milwaukee plant and the Samson Tractor Works, Janesville, Wis., is placing new orders practically every week. The Pennsylvania Lines West, which issued a large list several weeks ago, has sent out a second list, also of generous proportions, under date of Nov. 7. Purchasing will be done at Pittsburgh. The Iig Electric Ventilating Co., Chicago, has purchased a large turret lathe and a 30-in. boring mill, and is expected to close for additional equipment. The Traffic Motor Truck Co., St. Louis, has ordered two large turret lathes, and the Otis Elevator Co. has bought two hand-screw machines for its Quincy, Ill., plant. A new local woolen mill is in the market for about \$8,000 worth of equipment for its repair shop, and a local construction company is inquiring for \$8,000 worth of tools to be installed in a new Louisiana plant.

Deliveries continue very unsatisfactory. Several manufacturers of shapers have advanced prices 15 to 25 per cent and an Indiana maker of engine lathes has marked up quotations 10 to 15 per cent. General advances in most lines are expected before the end of the year.

The Edgar T. Ward's Sons Co., iron and steel warehousemen, 3604 South Morgan Street, Chicago, has awarded contract for the construction of a three-story warehouse, 276 x 98 ft., at 1445-1457 West Thirty-seventh Street, to cost \$225,000.

M. Pomorski, 5307-9 South Ashland Avenue, Chicago, has awarded a contract for the construction of an automobile body shop, 50 x 121 ft., to cost \$12,000.

The Atchison, Topeka & Santa Fe Railroad will construct a one-story steel-frame car repair shop, 50 x 128 ft., at the southeast corner of South Kedzie Avenue and Thirty-first Street, Chicago, at an estimated cost of \$10,000.

The Universal Battery Co., 3416-12 South La Salle Street, Chicago, has let contracts for the erection of a two-story brick factory, 74 x 75 ft., at 3420-22 South La Salle Street to cost about \$10,000.

The Federal Electric Co., 72 West Adams Street, Chicago, is receiving bids through an architect on a one and two story factory, 270 x 306 ft., to be erected at the southwest corner of State and Eighty-seventh streets.

The Walker Vehicle Co., West Thirty-ninth and Wallace streets, Chicago, is asking for figures on a one and two story plant, 202 x 528 ft., to be constructed near State and Eighty-seventh streets.

The Doehler Die & Casting Co., 4429 North Campbell Avenue, Chicago, is building a plant at Cottage Grove Avenue and Ninety-seventh Street.

Merritt J. Osborn, receiver for the Nilson Tractor Co., Minneapolis, Minn., is planning for the sale of the plant and business of the company as a going concern. The present valuation is placed at \$75,000.

The Pullman Co., Chicago, manufacturer of railroad cars, is arranging for an extension of operations and is equipping one of its buildings for the manufacture of automobile bodies. The company is said to have received an order from the Packard Motor Car Co., Detroit, for 4000 car bodies.

The Automatic Electric Washer Co., Newton, Iowa, manufacturer of electric washing machines, has had plans prepared for the erection of a four story and basement works 50 x 148 ft., and two-story building, 80 x 90 ft., with boiler plant, to cost about \$180,000, including equipment. H. Ott is president.

William Ganschow, 1001 West Washington Street, Chicago, is having plans prepared for the erection of a two-story brick machine shop, 32 x 175 ft., at 1013 West Washington Street.



## Cleveland

CLEVELAND, Nov. 17.

Henry Ford & Son are buying a round lot of equipment for their new tractor plant at Hamilton, Ohio, and among requirements not yet placed, are 50 turret lathes. In the Detroit automobile field a great deal of new business continues to come out. Locally the demand for machine tools is very active, but for the most part orders are confined to single tools and small lots. Equipment will be required for a large foundry to be built in Lansing, Mich., and orders have been placed with the Whiting Foundry Co. for the complete equipment for the new foundry of the Toledo Machine & Tool Co., Toledo, Ohio, including one 72-in. and one 102-in. cupola, also nine electric traveling cranes. The Firestone Tire & Rubber Co., Akron, has placed two 10-ton cranes, and the Firestone Steel Products Co. is inquiring for six electric traveling cranes and two hand-power cranes.

D. J. Ryan of the Allyne-Ryan Foundry Co., Cleveland, and Lansing, Mich., interests will build a continuous gray iron foundry in Lansing to cater to the automobile trade. The plant will be provided with two cupolas, and will have a daily output of approximately 200 tons of castings. Contracts for buildings and equipment will be placed shortly, and it is reported that the plant will involve an expenditure of \$1,500,000. The name of the company has not yet been announced.

The Forest City Machine & Forge Co., Cleveland, which was organized during the war to engage in munition work, will shortly convert its plant, which has been idle for some time, to the manufacture of rear axle differentials for automobiles. The company has been re-incorporated with a capital stock of \$800,000, but no change will be made in the old organization. Considerable new equipment will be required.

The American Road Machinery Co. has placed a contract with the H. K. Ferguson Co., Cleveland, for an addition, 60 x 165 ft., to its Delphos, Ohio, plant.

The plant of the Bryan Pattern & Machine Co., Bryan, Ohio, was burned recently, causing a loss estimated at \$80,000. The company expects to rebuild shortly.

The Hughes-Keenan Co. of Mansfield, Ohio, will enlarge its plant by the erection of a new building, 100 x 200 ft.

The Klein Iron Works Co., Bellevue, Ohio, has increased its capital stock from \$50,000 to \$150,000 and will double the size of its plant.

The Halladay Motors Corporation, Bucyrus, Ohio, is planning to erect works providing 40,000 sq. ft. of floor space.

The Republic Brass Co., Cleveland, has placed a contract for the erection of a two-story factory, 66 x 200 ft.

The Superior Sheet Steel Co., Canton, Ohio, recently incorporated, has elected the following officers: W. W. Irwin, president; H. A. Roemer, vice-president and general manager; D. A. Williams, assistant general manager; H. S. Renkert, treasurer, and P. L. Howenstine, secretary and assistant treasurer. The company has acquired 160 acres along the Pennsylvania Railroad and has placed contract for its mill buildings to the Canton Bridge Co. Contracts for the equipment have also been placed. The company will make galvanized and black sheets.

The Guide Motor Lamp Co., Cleveland, is erecting a new one-story plant, 120 x 500 ft., on a site recently acquired at West 112th and the New York Central Railroad.

The Grabler Mfg. Co., Cleveland, has acquired a site on Miles Avenue, on which it will erect a plant, including a malleable iron foundry, for the manufacture of fittings. According to present plans construction will not begin for two years.

The Hinderer Bros. Co., Canton, Ohio, has commenced the erection of a new foundry, 80 x 140 ft., doubling the present capacity.

## Cincinnati

CINCINNATI, Nov. 17.

The general demand for machine tools is holding up remarkably well. Inquiries from the East are not so numerous, but this is accounted for by the unsettled labor conditions. Foreign business has slowed down considerably due principally to rates of exchange and ocean transportation difficulties. A New York exporter recently placed an order for a number of portable electric drilling machines for shipment to Spain and Italy.

The Domestic Engineering Co. and the Dayton Engineering Laboratories Co., Dayton, Ohio, have recently been buying equipment quite freely. A large number of machines, however, are yet to be purchased to fill requirements in the expansion of their different plants. These companies were recently absorbed by the General Motors Co., but all purchasing is being done, as heretofore, at the Dayton offices.

The Cincinnati Shaper Co. has let contract for a reinforced concrete addition to its plant on Colerain Avenue, 30 x 210 ft., two stories.

The Huenefeld Co., Cincinnati, is in the market for drawing presses to handle light gage sheet metal.

The Edwards Mfg. Co., Cincinnati, roofing and sheet metal specialty manufacturer, has leased its branch plant at Winton Place to the B. F. Goodrich Co. for use as a storage plant. The Edwards company has tentative plans under way for a central plant estimated to cost \$1,000,000 to house its manufacturing branches.

The Auto Combination Lock Co., Covington, Ky., has been incorporated with \$75,000 capital stock by Charles A. J. Walker and others. No information has been given out as to manufacturing plans.

The Southern Foundry & Mfg. Co., Owensboro, Ky., has been incorporated with \$400,000 capital stock and is building an addition to its plant estimated to cost \$125,000. E. L. Binn is manager.

The Dayton Castings Co., Dayton, Ohio, has taken out permit for a building estimated to cost \$9,000.

## Buffalo

BUFFALO, Nov. 17.

The American Radiator Co., 1809 Elmwood Avenue, Buffalo, has filed plans for a one-story foundry, 50 x 190 ft., to cost \$19,000.

The Niagara Sprayer Co., Middleport, N. Y., manufacturer of spraying machines, has increased its capital stock from \$50,000 to \$500,000. It will build a one-story machine shop, works power plant and chemical plant.

The Harrison Radiator Corporation, Lockport, N. Y., manufacturer of automobile radiators, is building a one-story addition, 160 x 309 ft.

The Linn Tractor Corporation, Morris, N. Y., has been incorporated with an active capital of \$50,000 by H. H. Linn, G. Whitman and R. R. Ripley, to manufacture motor tractors and parts.

The Rochester Motors Co., 609 Driving Park Avenue, Rochester, N. Y., will build a new plant at Driving Park Avenue and Wren Street, to cost about \$60,000.

The Todd Protectograph Co., 1050 University Avenue, Rochester, N. Y., manufacturer of check protectors, will build a one-story addition, 56 x 100 ft., to cost \$10,000.

Fire Nov. 10 destroyed a portion of the plant of the Adirondack Core & Plug Co., Watertown, N. Y., with loss estimated at \$10,000.

The Lover Top & Converter Co., 1274 West venue, Buffalo, is making plans for an extension of its business in the near future. It operates a factory for the manufacture of automobile tops and enclosures. Edward Lover is president; G. H. Johnson, treasurer; W. T. Coe, secretary; and E. Kunz, general manager.

The Kam-Kleber-Veatch Co., 428 Pratt Street, Buffalo, manufacturer of automobile and flour-mill sheet metal work, has completed the enlargement of its new plant. George A. Kleber is president and general manager; Leslie R. Veatch, milling engineer, is vice-president; John H. Kam is secretary and treasurer; and Arthur G. Muskopf is assistant secretary.

## Pittsburgh

PITTSBURGH, Nov. 17.

The Gearless Motor Co., Pittsburgh, has had plans prepared for a one-story plant, 95 x 132 ft., on Flavel Street, to cost about \$50,000. A building at this location will be re-modeled and an addition constructed. Architect George O. Rodgers, 603 Hartje Building, is in charge of the work.

The Wappat Gear Works, Hamilton Avenue, Pittsburgh, is building a plant on Mead Street, near Braddock and Penn avenues, for the manufacture of gears, machine tools and special machinery. The company will remove its present plant to the new location, considerably increasing capacity. F. W. Wappat is president and manager.

The Allegheny Gear Works, Pittsburgh, has been incorporated with a capital stock of \$100,000 by E. L. White, 7011 Race Street; W. H. Thompson, 5505 Broad Street; and O. Refor, 3800 Fifth Avenue.

The Bamberger & Kras Co., Pittsburgh, manufacturer of patent stoppers, etc., has leased property on Amberson Avenue, near the Shadyside Station of the Pennsylvania Railroad, comprising part of a three-story building, for a plant.

The Burke Electric Co., Erie, Pa., manufacturer of motors, etc., has purchased the plant and business of the C. & C. Electric & Mfg. Co., Garwood, N. J., manufacturer of motors and generators. The machinery and equipment will be removed to the Erie works.

The Charleston Steam Tractor & Truck Mfg. Co., Morrison Building, Charleston, W. Va., recently organized, is planning for additions to its plant, 75 x 200 ft., at Dunbar, W. Va., to comprise about 75 x 660 ft., in additional manufacturing space, with initial output of 1000 machines per year. S. A. Lewis is president.

The Follansbee Bros. Co., Pittsburgh, which will build a new sheet mill at Toronto, Ohio, has an inquiry out for about 25 cranes, ranging from 5 tons up to 50. It will likely be in the market for a considerable number of machine tools, but has not as yet put out any inquiries.

## Indianapolis

The Robbins Body Corporation, Indianapolis, has been organized with a capital stock of \$2,500,000 and will take over the plant and property of Irvin Robbins & Co., manufacturer of automobile bodies. The site and buildings of the former Pathfinder Co., manufacturer of automobiles, will also be acquired, giving the company in all 500,000 sq. ft. of floor space. It will specialize in the production of closed bodies for automobiles. Uz McMurtrie, State Treasurer, is president of the corporation.

The Western Implement Co., Indianapolis, has sold its factory to the Papee Machine Co., Shortsville, N. Y.

The Cleveland Metal Products Co., Cleveland, has purchased 46,000 sq. ft. at the Belt Railroad and Meridian Street, Indianapolis, on which it is proposed to erect factory buildings, the first to be one story, with 20,000 sq. ft. of floor space, to cost \$100,000.

The Hammond Pattern & Model Works, Hammond, Ind., has increased its capital stock from \$25,000 to \$35,000.

The Logansport Machine Co., Logansport, Ind., has issued \$75,000 of preferred stock.

The Highway Iron Products Co., Ligonier, Ind., has increased its capital stock from \$50,000 to \$100,000.

The Lock Joint Tube Co., South Bend, Ind., has been incorporated with \$100,000 capital stock to manufacture metal tubing. The directors are Andrew and Isadore Woodka and Isadore Van Huffel.

The Crawfordville Foundry Co., Crawfordville, Ind., is having plans by Architect P. S. Garrett, Danville, Ill., for the erection of a new foundry and machine works, to comprise three buildings, one story, 60 x 80 ft.; two story, 60 x 80 ft.; and one story, 20 x 40 ft., to cost about \$20,000. C. W. Coons, Chamber of Commerce, is interested in the company.

The Mutual Truck Co., Sullivan, Ind., is having plans prepared for a one-story addition, 100 x 300 ft., to cost about \$40,000.

The McBeth-Evans Glass Co., Bethaven, Ind., has let contracts for the construction of machine and pattern shop additions, 50 x 110 ft., two stories, to cost \$40,000.

## New England

BOSTON, Nov. 17.

Local interests continue to report an active demand for equipment. Recent advances in prices have carried little weight with consumers, their main idea apparently being to cover requirements. The great bulk of the buying the past week has been in one and two machines, but the aggregate has been sufficient to severely tax the capacity of manufacturers. Some large lists, however, are in hand and others of importance are understood to be pending.

There has been a general advance in prices of foundry supplies amounting to approximately 10 per cent. Leading manufacturers of files have advanced their lists 10 per cent, and it is rumored that makers of twist drills will do the same at an early date. New York dealers have been the largest purchasers of second hand machinery in this market the past week. Sales to New England interests are inclined to be slow, due to the fact that prospective customers do more or

less shopping. The Walden Wrench Co., Worcester, Mass., is buying new equipment. The Fisk Rubber Co., Chicopee Falls, Mass., has just contracted for a large number of machines and is out of the market for the present, at least. The National Equipment Co., Springfield, Mass., is reported as having bought a large number of machine tools the past week. The Smith-Springfield Body Co., West Springfield, Mass., is fast getting its affairs into shape where it can begin the manufacture of bodies for the Stevens-Duryea Co. Hinsdale Smith is president of the company. The General Electric Co., Lynn, placed orders for additional equipment the past week and is making further inquiries.

The Worthington Pump & Machinery Corporation has issued a large list of machines required for the Dean works, covering the 1920 budget, which calls for large lathes, boring mills, planers and miscellaneous machines.

The Rolis-Royce people have definitely decided to locate in Springfield, Mass. A nine months' lease of offices has been taken in the City Realty Building, and Mr. Ryan of the New York office is in charge. No machinery will be purchased until Mr. Bagnell, the company's English engineer, returns to America.

The G. H. & P. Co., 128 North Main Street, Providence, R. I., maker of light machinery, tools, jigs, fixtures and gages, is in the market for equipment. Albert Graham, formerly superintendent of George W. Dover, Inc., Providence, is a member of the firm.

The Turner Construction Co., Boston, has a contract to build a concrete manufacturing building for the Aluminum Products Co., Edgewater, N. J., at a cost of \$1,000,000.

Work on the addition to the plant of the Royal Typewriter Co., Hartford, Conn., will not be started until spring. Bids are being taken by the Oven Equipment & Mfg. Co., New Haven, Conn., for the erection of a factory, 90 x 280 ft., on Lombard, between Monroe and Main streets.

A preliminary certificate of dissolution has been filed by the Milford Tool & Engineering Co., Milford, Conn.

The Crownshield Shipbuilding Co. is preparing to resume work at its South Somerset plant. New machinery is being installed.

Contract has been let to the T. J. Pardy Construction Co., Bridgeport, Conn., for the erection of a factory to cost \$135,000 for the American Chain Co., 2 State Street, Waterbury, Conn.

The Coe-tapley Mfg. Co., Bridgeport, Conn., has bought the Avls plant at West Haven, Conn., where it intends to begin the manufacture of automobile accessories this year. At present the Government has about 50 carloads of machinery stored in the plant, which will be moved to Springfield and Bridgeport.

Bids for 230 machine tools, under sealed proposals, will be opened at the United States Armory, Springfield, Mass., at 2 p. m., Nov. 23. Nearly all of the machines are in good condition, but a few have parts missing. The list includes screw machines, turret lathes, hand millers, drills, drill presses, hammers, punch presses, etc.

The organization of the Standard Steel & Bearings Co., Plainville, Conn., a subsidiary of the Marlin-Rockwell Corporation, has been completed by the election of the following officers: President, F. Rockwell; secretary and treasurer, H. C. Prior; vice-presidents, T. C. Fogel, George L. Sanford and Hugh M. Rockwell. The company has a capital stock of \$8,000,000 and has plants at Plainville, Norwich and New Haven, Conn.

Plans are being drawn for a two-story foundry to be erected by the Saco-Lowell Works, Biddeford, Me.

The Penobscott Foundry Co., Main Street, Bangor, Me., is reported as contemplating the erection of a two-story machine shop, 50 x 100 ft. Construction will not start for some time.

The Fred T. Ley Co., Springfield, Mass., has been awarded a contract to build a two-story addition to the locomotive house of the Ludlow Mfg. Associates, Ludlow, Mass.

Work is about to start on the \$12,000,000 addition to the Lux Clock Co.'s plant, Waterbury, Conn. Valcourt & Bell, Waterbury, have the contract.

William H. Hamlyn & Sons, Providence, R. I., have been awarded the contract for the erection of a \$75,000 machine shop for the R. I. Potter & Johnson Machine Co., Newport Avenue, Pawtucket, R. I.

The Lynn Machine & Screw Co., Lynn, Mass., has taken space in the Hoyt Building, 496 Washington Street, and is installing equipment, including 30 automatic screw machines. About 100 skilled mechanics will be employed. M. W. Chipman, who for many years was connected with the General Electric Co. at Lynn and Pittsfield, Mass., is president and general manager.

The Cuno Engineering Corporation, 80 Vine Street, Meriden, Conn., is planning to add another building to its works.

The Bridgeport Iron & Metal Co., Bridgeport, Conn., has increased its outstanding stock to \$200,000.

The Hart & Hutchinson Co., New Britain, Conn., manufacturer of steel lockers, steel shop equipment, etc., has broken ground for the erection of a one-story addition, 76 x 337 ft., with extension 30 x 67 ft.

## Philadelphia

PHILADELPHIA, Nov. 17.

Fayette R. Plumb, Inc., James and Tucker streets Philadelphia, manufacturer of axes, hammers and other tools, will build a one-story brick and steel plant, 87 x 556 ft.

The Freed Furnace Co., Royersford, Pa., has been incorporated with a capital stock of \$75,000 by Yelles C. and Morris A. Freed, Royersford, and John A. Freed, Collegeville, Pa., to manufacture furnaces, etc.

The Berger Mfg. Co., Sixteenth and Washington streets, Philadelphia, manufacturer of metal products, has filed plans for a one-story addition, 36 x 200 ft., to cost \$10,000.

The Ordnance Department, Philadelphia, has had plans prepared for the erection of a one-story power plant, 135 x 139 ft., at the Frankford Arsenal.

The R. & L. Bearing Co., Philadelphia, has been incorporated with a capital stock of \$20,000 by Joseph P. Murray, 921 South Fifth Street, Philadelphia; Frank S. Muzzey, 7320 Bryan Street, Mt. Airy, Pa.; and F. Stanley Saurman, Churchville, Pa., to manufacture ball bearings, etc.

The American Pulley Co., 4200 Wissahickon Avenue, Philadelphia, has filed plans for a one-story brick addition, 62 x 163 ft., to cost \$30,000.

The Traylor Engineering & Mfg. Co., Allentown, Pa., manufacturer of crushing, metallurgical, coal-briquetting and other machinery, will establish a plant for the manufacture of automobile trucks and tractors at its former shipyard at Cornwells, Pa. The works will be remodeled and re-equipped to produce trucks of 1, 1½, 2½ and 3 tons' capacity.

to be ready for operation about Jan. 1. The company has increased its capital from \$1,000,000 to \$2,500,000, and has arranged for a preferred stock issue of \$500,000, to provide for the proposed expansion. Samuel W. Taylor is chairman.

The E. T. Fralm Lock Co., Lancaster, Pa., has completed plans for a one-story machine shop on Park Avenue, 44 x 82 ft.

The plant of the York Carriage Co., Hay and State streets, York, Pa., manufacturer of automobile truck bodies, parts, etc., has been acquired at a receiver's sale by George W. Ryan and J. Calvin Shutte for a consideration of \$155,000. The new owners will continue the operation of the plant, which for the past five years has been in charge of F. L. Schneider, receiver.

The Read Machinery Co., 231 North George Street, York, Pa., has commenced the erection of a one-story plant, 158 x 240 ft., on Grantley Street, to cost about \$100,000, including equipment. A one-story boiler plant, 40 x 50 ft., to cost \$20,000, will also be constructed. Harry Read is president and treasurer.

The Charles Bond Co., 520 Arch Street, Philadelphia, manufacturer of factory trucks, etc., has increased its capital stock from \$125,000 to \$300,000.

## Detroit

DETROIT, Nov. 17.

Construction has been started on the new plant of the Detroit Seamless Steel Tubes Co., Detroit, and it is expected to have the first unit ready for occupancy about Jan. 1. There will be three manufacturing units, each 96 x 550 ft., in addition to an administration building and heat treating plant.

The Sewell Cushion Wheel Co., Detroit, has purchased a site on Harper Avenue and the Detroit Terminal Railway for a new plant.

Plans are being drawn for a new power house for the Battle Creek Sanitarium, Battle Creek, Mich.

The Nichols & Shepard Co., maker of grain threshing machinery, Battle Creek, Mich., are completing the first half of an expansion and improvement program. About \$300,000 has been expended thus far. A new boiler plant, with the latest tubular type marine boilers, automatic stockers and other equipment, has been completed. The manufacturing space for threshing machinery has been enlarged and additions have been made to the machine shops.

Building contracts let in Detroit the past week were for additions to the plants of the Stroh Castings Co., Maxwell Motor Car Co., Detroit Vapor Stove Co., power house for the Fisher Body Co., and a two-story plant for the Mutual Electric & Machine Co.

The Bean Spray Pump Co., Lansing, Mich., has let contract for the erection of a one-story plant, 40 x 80 ft., to cost \$25,000.

The Shaw Electric Crane Co., Muskegon, Mich., plans the erection of an addition to double its capacity.

## Baltimore

BALTIMORE, Nov. 17.

The Dixie Storage Battery Co., 709 American Building, Baltimore, has been incorporated with \$250,000 capital stock by Charles W. Southcomb, John R. Rutter and William G. Brohawn.

Announcement is expected to be made in Baltimore soon of the plans for the establishment of a plant for the manufacture of metal office furniture. It is said the plant will be near that of the Eastern Rolling Mills Co. and will use some of the product of that company.

The Chatham Flue Valve Co., Chatham, Va., has been incorporated with \$15,000 capital stock. R. L. Neal is president and J. J. Patterson is secretary.

The National Concrete Boat Co., Norfolk, Va., contemplates the addition of a marine railway repair department and other improvements. R. D. Davis is general manager.

The Ramos-Eubank Phonograph Mfg. Co., Richmond, Va., recently organized, plans to build a factory for the manufacture of talking machines. John S. Ramos is president and manager.

Hackley Morrison, 204 Moore Building, Richmond, Va., will receive quotations on second-hand Corliss engines and 15 hp. motors.

James B. Porter, Norfolk, Va., is interested in quotations on lathes, shapers, drill presses, bolt machines, etc.

The Foster Furniture Co., Liberty, N. C., is seeking prices on 100 to 200 hp. engines and boilers.

The Electro-Mechanical Co., 530 North Calvert Street, Baltimore, has had plans prepared for improvements in its four-story plant, 45 x 110 ft., to cost about \$15,000.

The Board of Trade, Baltimore, has completed negotiations with the Delton Tire & Rubber Co., Trneton, N. J., for the removal of its plant to a local site.

The Armour Fertilizer Co., Baltimore, a subsidiary of Armour & Co., Chicago, is arranging details for its proposed plant on property recently acquired at Curtis Bay, known as the Mann tract, comprising about 20 acres. The plant, with equipment, is estimated to cost about \$2,000,000.

Richard Roberts & Son, Cardiff, Md., manufacturers of farm machinery, are planning to rebuild the section of their plant recently destroyed by fire with loss estimated at \$10,000.

The Eclipse Harrow Mfg. Co., Tarboro, N. C., has been incorporated with a capital stock of \$100,000 by M. G. Mann, T. T. Thomas and M. S. Brown to manufacture harrows and other farm implements.

## CATALOGS WANTED

The Milwaukee works of the International Harvester Co., 736 Park Street, Milwaukee, desires copies of the latest catalogs of machine-tool manufacturers, for the attention of R. F. Weber.

The Emergency Fleet Corporation, 140 North Broad Street, Philadelphia, announces that it will offer for sale through its district offices about 200,000 tons of surplus steel in the form of plates, shapes and bars. Much of this material is fabricated and probably cannot be disposed of except as scrap. Sales will be made by means of competitive bids.



